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ABSTRACT

The first edition of a bibliography focusing on state and national level planning in higher education is presented. For purposes of this publication, planning is defined as a process of study and foresight that generates action to achieve desired outcomes in the higher education sector. The bibliography is organized into topic areas that include: admission, articulation, retention; campus and building planning; comparative planning systems; demography; economics; educational communication and technology; educational opportunity; faculty; finance; governance and coordination; independent (private) higher education; institutional role and mission; libraries; management--quantitative approaches; planning--issues, theory, reference; productivity and cost-benefit analysis; research and research administration; resource allocation and budgeting; space management and projections; student characteristics and development; student financial assistance; and work and education. Brief descriptions of the topic areas and outlines of subtopics are provided. Each entry includes standard bibliographic information as well as an annotation. Over 500 entries are included. (BH)

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HIGHER EDUCATION PLANNING

A BIBLIOGRAPHIC HANDBOOK

D. Kent Halstead
Editor

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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June 1979

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Introduction

Why not spend some time in determining what is worthwhile for us, and then go after that?
–William Ross

The art of reading is to skip judiciously.
–P.J. Hamerton, *The Intellectual Life*

But even wholesale skipping is likely to be ineffective in dealing with today's flood of new publications. Scholars cannot keep track of, much less read, the volume produced. Libraries also are unable to buy everything, and even if they could, they would be unable to store it. Yet more than 200 years ago Voltaire observed that "The multitude of books is making us ignorant." Then his observation may have been an exaggeration, now it is seen as a portent of things to come.

Currently the Library of Congress adds between three and four hundred thousand volumes and pamphlets to its collection each year. In the field of higher education, the Educational Resources Information Center (ERIC) estimates that over 4,000 books, journal articles, reports, speeches, and other fugitive documents are published each year. This probably includes about 400 new books.

The increasing number of scholars results in more and more publications. There is no practical way to stem such expansion; nor should competent research be discouraged by selective publication. The way to handle so much literature lies not in curtailment but in distinguishing what is excellent from what is merely competent and to make select volumes accessible.

Such an approach is being considered by the National Enquiry into Scholarly Communication, a commission which seeks ways in which scholarly information can be better disseminated. The commission concedes that overall implementation will be difficult. Its major concern is the means to be used to identify publications of "high quality."

The purpose of this bibliography and future supplements is to identify and publicize on a continuing basis "high quality" references in State and national level planning in higher education. The tack taken to determine recommended reading is to rely primarily on the opinions of experts. Through professional experience and personal savvy, 22 noted experts have attempted to select only substantive and distinctive works with emphasis on practical value. Chosen to serve as independent associate editors in their field of specialization, they have responsibility for their selections, but in turn have consulted freely with their associates and colleagues.

The comprehensive view of planning assumed for this bibliography encompasses the forward-looking elements of virtually all aspects of higher education. The object is to design a basic planning library for the professional research staff which seeks to have essential reference works at hand and to keep abreast of developments in the field. Dr. Charles W. Eliot termed such a collection a "five-foot shelf." This expresses accurately the concept even if it fails to reflect the present-day dimensions. The value of this kind of bibliography may have been what Samuel Johnson had in mind when he said, "The next best thing to knowing something is knowing where to find it."

Planning demands that all facets of a problem be understood, including anticipation of the multiple and sometimes expanding consequences of intended actions. The wide scope of planning compounds the task of keeping up with new theory and practice. And because planning involves the future, it is imperative to employ the latest data, projections, and methodology. This bibliography is prepared to assist planners acquire this breadth of knowledge and current information. Entries cover the last decade through June 1978, with some soon-to-be-published volumes included. Periodic supplements will keep the bibliography up-to-date.

Planning is a component of all facets of higher education, indicating widespread need for a bibliography in this field. Although focused on the suggested reference requirements of State and national planning agencies, planning and development officers at the institutional level should find much of relevance. Researchers and scholars will also find useful entries in their specialties, although practical usage and technology have been given precedence over theory. Those most affected by educational policies, notably students and faculty, as well as those who enact and finance policy, notably boards of regents, elected representatives, and citizens, may use this bibliography to inquire further into today's issues.

Bibliographic Design

Bibliographies come in assorted shapes and sizes, their composition established by five basic elements: 1) subject universe, 2) organization, 3) selection criteria, 4) annotation, and 5) plan for updating. To ensure proper usage, the design of this work will be set down in some detail.

Subject Universe. The subject of this bibliography, State and national level planning in higher education, is primarily a matter of focus and concentration rather than absolute adherence.

The universe coverage can best be described by proceeding from the general to the specific. The *sector*, higher education, consists in the United States of the 3,130 colleges and universities providing degree-credit study and the associated State and national organizations and agencies serving this community. This "collegiate" group is distinguished in this bibliography from the broader postsecondary education community, so as to exclude studies primarily concerned with training institutes and proprietary schools.

The *function* of planning is defined here as a process of study and foresight which generates action to achieve desired outcomes. This bibliography attempts to present texts which support this study process. Works on day-to-day operations and administration are not included here; neither are works on pedagogy nor learning per se. Also excluded are planning elements dealt with as a science. Practitioners will, of course, require texts in management, economic fundamentals, etc., for the proper application of these disciplines in planning, but they are not part of this bibliography.

Most other subject matter of proven or expected value to planners, however, regardless of its more immediate intended purpose, is presented here. Two qualifications are imposed: 1) the work must be scholarly, that is it must be based on systematic observation, study, or experimentation, and 2) the work must demonstrate critical inquiry and thoughtful interpretation. These criteria are not meant to exclude commentary on current issues. Many recent works of value to planners deal subjectively with controversial topics, such as educational opportunity, tuition level, governance, and collective bargaining. These studies, some of which are included here, enliven planning by stimulating healthy debate and developing educational philosophy.

Lastly, the subject of this bibliography concerns planning at the *State and national level*. This is a matter of emphasis, for State and national planners often rely on institutional studies. Many such studies, however, are too specialized or parochial to apply to broader State and Federal planning. These works are excluded, ideally to be compiled in a companion bibliography of institutional planning and research.[1]

Organization. The field of higher education planning is divided within this bibliography into 22 topic areas and various subdivisions:

1. Admission, Articulation, Retention
2. Campus and Building Planning
3. Comparative Planning Systems
4. Demography
5. Economics

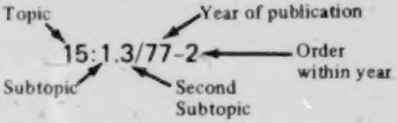
---

[1] Topics more pertinent to institutions than State and national level planning agencies, and generally excluded from this bibliography, include the following: accreditation, affirmative action, alumni, auxiliary enterprises, campus governance, competency programs, curriculum design, endowment, faculty matters such as academic freedom, recruitment, promotion, evaluation, tenure, etc., Federal program description, fund raising, grading practices, institutional histories and self-studies, personnel management pedagogy, philosophy of education, purchasing, student affairs, and teaching and learning.

6. Educational Communication and Technology
7. Educational Opportunity
8. Faculty
9. Finance
10. Governance and Coordination
11. Independent (Private) Higher Education
12. Institutional Role and Mission
13. Libraries
14. Management–Quantitative Approaches
15. Planning–Issues, Theory, Reference
16. Productivity and Cost-Benefit Analysis
17. Research and Research Administration
18. Resource Allocation and Budgeting
19. Space Management and Projection
20. Student Characteristics and Development
21. Student Financial Assistance
22. Work and Education

The associate editors provide brief descriptions of the contents of their topic areas and an outline of subtopics to aid in subject location (as in library classification). The taxonomy should not be viewed as being theoretically derived. The broad topics necessarily overlap, the only distinguishing boundaries being those the editors have arbitrarily agreed upon. The subject area, then, has been divided with as much logical association as possible, even though many entries might have been classified equally well under two or three different headings. The literature in higher education is not compartmentalized as neatly as the classification plan would suggest. Large volumes in particular may deal with a number of related but distinctive topics. But in every instance volumes are assigned only one identification number and annotated only once under the heading deemed most appropriate or useful. Cross-references are made only if a chapter or essay in a work deals substantially with another topic to a degree that it could have been listed within it independently.

To provide an abbreviated identification for cross-referencing and author indexing, each entry is assigned a single number corresponding to its location within the taxonomy system and year of publication. The number order can best be described by this example:



Selection. Bibliographers seldom label their work comprehensive, as the chances of inadvertent exclusions are too high. At the same time, truly "selective" compilations are also rare, since the justification of one's choices is an altogether awkward task. [One early bibliography claimed to be "*highly* selective" (emphasis added) while reporting nearly 3,000 entries in college and university administration for a 10-year period.] Most bibliographers are content to find as many entries as possible in the time allotted, the selection being controlled as much by available resources as considerations of quality.

This bibliography, however, attempts to be both comprehensive and selective.

Critical selection is at once the most important, difficult, and rare ingredient of bibliographic endeavors. The theory behind selection is obviously to separate from many works those most valuable, so that countless other readers might save time and energy. (The amount of savings can be substantial, as evidenced by the estimated 1,500 candidate works reviewed for inclusion in this compilation).

Quality as a relative matter is always difficult to judge; generally made more so by the absence of benchmarks as standards for comparison. Writings, however, are clearly not egalitarian; excellent work can easily be distinguished from the bad. The difficult but essential task is selecting among many competent works those of distinction, and justifying this choice.

Two criteria guide the selection of these recommended references—relevancy and quality. The material must, of course, be *relevant* to planning, i.e., pertain to one or more of the planning activities themselves or, more often, contain information or analyses useful in planning. Relevance also implies timeliness of findings and applicability of data to current and/or anticipated conditions.

Quality in scholarly inquiry is interpreted here as having two assessable dimensions: substance and distinctiveness or originality. To be included in the bibliography, entries must be substantial works containing a considerable amount of useful, perhaps essential, information. They must also present meaningful analyses of direct bearing on a topic. Limited studies of marginal or restricted value are excluded.

Entries must also make a distinctive contribution. Original work introducing valuable new analyses, procedures, observations, conclusions, data, etc., were sought. From a number of good works on the same topic, the best has been chosen. Syntheses or summaries of material are also included if they accurately capture and capsulize the main work. Thus if compendiums effectively summarize and reference earlier studies, the studies themselves are generally not entered separately. Most works achieve excellence through a combination of new and existing research. Some older landmark studies remain distinctive when newer efforts fail to capture the unique contribution which so often characterizes the original work; recency in itself is no guarantee that anything new is being said.

Application of these criteria has resulted in the selection of many more books than journal articles. This weakness is due in part to the difficulty encountered in searching the many journals. The often narrow scope of papers and their frequent focus on specialized research findings as opposed to practical technology suggests the reasons for this limited inclusion. Some dissertations and fugitive materials meet the criteria of substance and distinctiveness, but are frequently too specialized to be included.

Annotation. As titles give little or no information about the nature and value of contents, annotation, second to selection, is of vital importance. A full annotation explains what the volume is about and assists readers in identifying those entries most likely to meet their specific needs.

As with standard bibliographic practice, the annotations of this compilation outline the general content, scope, and special features of each entry. They are more than abstracts since the content is further examined to identify the unique contributions or distinctiveness. Prepared by knowledgeable experts, the annotations may also include evaluative and critical appraisal where such appraisal aids in interpreting worth.

Updating. Bibliographies do not age well. After just a year they show serious signs of senility—an unfamiliarity with what is going on around them. Research takes up from the past so that new discoveries eclipse what preceded it. An extreme example occurs when a comprehensive treatise is published which effectively summarizes and thereby renders obsolete a host of earlier fragmentary works. Hence the modern bibliographer must play an active role of keeping in touch.

An attempt will be made to update this bibliography by providing periodic supplements, adding new or inadvertently omitted entries, and deleting material which has lost its usefulness. An updated comprehensive edition will be published less frequently. The whole process will be greatly facilitated and made more accurate with the cooperation of readers informing the appropriate associate editors of candidate material. Copies of, or information on, books and journal articles believed to meet the selection criteria should be brought to their attention. (A *Special Request* guide is included to aid in such notification). This joint effort will expand the search capacity considerably and thereby reduce the chance of oversight.

Acknowledgments

The work of recent bibliographers deserves special citation. M. M. Chambers, Roger R. Kelsey, Lewis B. Mayhew, and L. Richard Meeth[2] covered the field of higher education in the sixties and early seventies in a personalized style and rare commitment not likely to be seen again. Discontinuation of their work, which prompted this effort, reminds us of our dependence on their service.

While the editor had the concept for this bibliography and the idea for its publication, the associate editors had the responsibility for topic definition and entry selection and annotation. They have performed this arduous work diligently and professionally with scant reward.[3]

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[2] Chambers, M. M., *A Brief Bibliography of Higher Education in the Middle of the Nineteen Sixties*, School of Education, Indiana University, Bloomington, 1966.
Kelsey, Roger R., *A. H. E. Bibliography on Higher Education*, American Association for Higher Education, Washington, D.C., 1963-74 (1968 composite volume).
Mayhew, Lewis B., *The Literature of Higher Education*, American Association for Higher Education, Washington, D.C., 1965-72.
Meeth, L. Richard, ed., *Selected Issues in Higher Education: An Annotated Bibliography*, Teachers College Press, Columbia University, New York, 1966.

[3] Reaping a mixed bag of rewards, bibliographers will appreciate Elliott Coues comments. He was for a decade (1878-88) obsessed with bibliography and proposed to write a *Universal Bibliography of Ornithology*. Four installments were all that

Appreciation is due Jim Manion, Caroline Wagner, and Marla J. Kinney and the International Business Services, Inc. staff for the excellent management of this project, editing the entries, and compilation of the author index.

At the National Institute of Education, Jeffry Schiller and Arthur Melmed established a responsive and supporting environment which made this intramural research possible and enjoyable.

All research is progressive and collective, the more recent advancements of a few, depending on the earlier contributions of many. The very real value of the hundreds of works that have been examined but are not included in this volume is fully recognized. For these investigators, proper perspective is best described by Emily Dickinson's great definition, in her *Publication is not the business of poets;* being a poet is all, being known as a poet is nothing.

Kent Halstead

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were ever published, and even this effort is extraordinary. Of this period he wrote:

> "I think I never did anything else in my life which brought me such hearty praise . . . from ornithologists who knew that bibliography was a necessary nuisance and a horrible drudgery that no mere drudge could perform. It takes a sort of inspired idiot to be a good bibliographer, and his inspiration is as dangerous a gift as the appetite of the gambler or dipsomaniac . . . Perhaps it was lucky for me that I was forcibly divorced from my bibliographical mania; at any rate, years have cured me from that habit, and I shall never be spellbound in that way"

SPECIAL REQUEST

Although this first edition is intended to be complete and accurate, it is not. Library searches by a few experts, however thorough, cannot possibly provide the comprehensive coverage and collective evaluation required. Additional information from the research and professional education community is necessary. Your participation, in the areas outlined below, will ensure that the high level of confidence sought for the bibliography is obtained. Please respond directly to the associate editors involved. Their addresses and telephone numbers begin on page xix.

***What works do you feel meet the selection criteria and nominate for inclusion? (Candidate material may be older volumes and soon-to-be published works, as well as new editions. To facilitate evaluation and entry, authors should provide copies of nominated works and draft annotations.)

***What existing entries lack the necessary value and should be reviewed for possible exclusion?

***What improvements can be made in annotation? (Authors in particular are encouraged to send revisions and/or extensions to assist in properly annotating their works.)

***What changes in the taxonomy of topics and subtopics do you recommend?

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22 WORK AND EDUCATION

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1

Admission/Articulation/Retention

Robert G. Cope

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Admission, articulation, and retention are parts of an educational process which promotes continuous and efficient progress of undergraduate learners* through the progressive levels of the formal educational system from high school through college and other institutions of postsecondary education. The learner's movement toward educational objectives is smoother and more expeditious when the parts of the process are in greater harmony with each other and with the learner's needs. Many of the problems of process stem from the diverse nature of the educational enterprise in the United States. The traditions of local control and institutional autonomy impede standardization, engender suspicion when there are attempts to coordinate the process, and breed a sense of competition.

The literature annotated here should be useful to the State and Federal policymaker, for it covers research about the misunderstandings, obstacles and barriers inherent in the present system. The references selected focus on reliable data sources containing practical recommendations on techniques and mechanisms to improve admissions, tighten curricular articulation, and enhance retention *when* beneficial to *both* learner and institution.

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*As no graduate student literature on admission and articulation was thought to be of sufficient value in State and Federal planning, this section is restricted to the undergraduate level.

Admission and Articulation. The admissions literature deals with different issues every year. Ten years ago the primary issue appeared to be merit versus equal opportunity; then there was a shift to how to implement the open-door approach. Now there are a variety of intertwined issues: legal matters, such as the constitutionality of quotas and reverse discrimination; political matters, such as how to implement acts of legislatures; marketing problems, such as how to compete for fewer students, and consumerism, such as how to advertise fairly. (Demographic developments affecting the size and quality of the applicant pool are annotated in Topic 4: Demography).

The literature on articulation focuses upon statewide coordination, public/private school differences, and common school/postsecondary system differences. Other articulation topics deal with the types of institution affecting a "horizontal" or "vertical" flow of learners from high school through lifelong learning.

Retention/Attrition. Studies of attrition, or as it is more popularly called today, retention, have been conducted for over 50 years. The literature selected summarizes what is known about rates of leaving or staying, and the individual characteristics (intelligence, sex, goal commitment . . .) and institutional characteristics (type, selectivity, size) associated with rates of retention.

A long history of problems have been associated with the progress of learners through the formal educational system. It is doubtful that these problems can ever be fully avoided in the years ahead as the issues frequently change, appropriately reflecting an increasingly turbulent environment. As planners accept the idea that higher educational institutions need to adapt to a changing environment, then they will confidently modify State and Federal policy so the variety of new learners can move ~~in~~ and out of institutions on a smooth, efficient, and humane course.

Other important literature related to admission, articulation, transfer and retention will be found under Topic 4: Demography; Topic 7: Educational Opportunity; Topic 20: Student Characteristics and Development; and Topic 21: Student Financial Assistance.

TOPIC ORGANIZATION

1: Admission/Articulation/Retention

- 1.0 Admissions and Articulation
- 2.0 Retention/Attrition

1.0 ADMISSIONS AND ARTICULATION

1:1.0/78-1

Minority Admissions, Robert Bailey, 213 pp. (Lexington Books, Lexington, Mass.).

Fortuitously, Robert Bailey's book was released from the publisher the very week in which the Supreme Court announced its decision in the "*Bakke* case". It is fortunate, then, that this book makes a comprehensive review and discussion of minority admissions available at a time when background information is needed to appreciate the broad significance of the *Bakke* case, and in time to consider the well-described complexities associated with admissions generally and with minorities and discrimination in particular.

The book contains sections dealing with academic admission requirements, predictions, and the major problems of student selection when specific reference has not been given to minority applicants. The book then launches into an exhaustive discussion of the problems associated with minorities, and ends with an illustration of the complete argument presented by the judges of the California Supreme Court as well as the brief presented by the University of California regarding the *Bakke* case.

Readers are provided with advice for designing early outreach admissions programs that are in accordance with the *Bakke* decisions. This is a practical book.

1:1.0/78-2

"Transfer Students in Institutions of Higher Education," Samuel S. Peng, *Research in Higher Education,* Vol. 8, June, pp. 319-342.

The purpose of this study is to describe the extent of college transferring and to examine differences in background characteristics between transfers and nontransfers. Using a national probability sample drawn from the 1972 entering class, the study covers the 2-year period since initial matriculation.

Data are from a sample of over 20,000 high school seniors. Educational and work experiences, plans, aspirations, attitudes, and personal background characteristics were measured over three points in time: Spring, 1972, Fall and Winter of 1973-74, and Fall and Winter of 1974-75.

Major findings include the following: 25 percent of the 2-year college students transferred to a 4-year institution, and 16 percent of the 4-year college students moved to another 4-year institution; students were more likely to transfer from private than from public institutions and students moving from 2-year to 4-year institutions constituted the largest transfer group; horizontal transferring among 4-year institutions was common among students with higher socioeconomic backgrounds and with higher college grades who entered college with lower aptitude test scores; financial conditions seemed important in transferring, as many students transferred to lower cost institutions regardless of socioeconomic background.

It is increasingly important to know who transfers, to what type of institutions they transfer, and for what reasons. This is the first data appearing in a readily available article that can be generally applied to all institutions of higher education. The article includes 11 data tables and some guidance on methodology. References include technical reports, and a bibliography of related studies. The research is based upon a contract with the National Center for Education Statistics.

1:1.0/77-1

Selective Admissions in Higher Education, Carnegie Council on Policy Studies in Higher Education, 256 pp. (Jossey-Bass, San Francisco).

This report is a valuable contribution to the difficult policy issues inherent in special admissions for disadvantaged students. Regardless of the Supreme Court decision regarding the Regents of California versus Allan Bakke, this Carnegie Report proves useful because it addresses the issue from two standpoints—one, how to think about admissions to selective schools, and the other, what to know about admissions policies and practices.

The report consists of three parts. Part 1 presents the recommendations of the Carnegie Council for public policy as well as academic policy regarding special admission of disadvantaged students. The policy recommendation portions start out with the skeletal facts about the Bakke case as background for discussion of the value-laden issues involved in balancing individual and group equity. The basic point made is that racial quotas are potentially iniquitous and demeaning, yet "it would be a serious handicap to higher education if institutions were precluded from taking account of the race of applicants."

Parts 2 and 3 were prepared by the Educational Testing Service at the request of the Council. Part 2, authored by Winton Manning, addresses the issue of fairness in admissions and arrives at a 2-stage model which makes a distinction between *admissibility*, which establishes the minimal qualifications necessary for success in the institution, and *selection* which seeks to choose from among qualified applicants the students who would make the "best" entering class.

Part 3, prepared by Warren W. Willingham and Hunter Breland presents a statistical description of selective admissions and the impact on various groups. Data are presented separately for undergraduate and graduate colleges and for the professional schools of law, medicine and management.

The report as a whole offers valuable statistical and descriptive information accompanied by thoughtful suggestions for dealing with the complex issues involved in selective admissions and the preferential treatment of ethnic minorities.

In addition to the discussion of issues, the book includes a substantial summary of data in tables that are useful for considering national policy. Among the tables are those on degrees earned by sex, field of study, and minority status; and admissions and degree data for professional schools of medicine, law, and management.

This is a well-balanced presentation on the quantitative and qualitative dimensions of admissions programs as they pertain to both minorities and non-minorities.

1:1.0/77-2

University Admissions: Dilemmas and Potential. Carol Shulman, 52 pp. (American Association for Higher Education, Washington, D.C.).

Why the title of this summary of the literature on admissions includes the term "university" is a mystery. Nowhere in the document is the discussion limited to universities, nor are universities even mentioned as a special case. Instead the monograph (one of an annual series of research reports) analyzes the admissions concerns of the 1960's, describes their transformation into the 1970's and comments upon the current admissions problems relative to *all* types of institutions.

The context of this literature review is social goals and how they are or are not related to admissions practices. Topics addressed include legal problems in admissions, the applicant pool, financial considerations, recruitment and marketing, notification, and the student as consumer.

Carol Shulman is one of the most able synthesizers working in higher education and this document is the "last word" on issues prior to the decision on *Bakke v. The Regents of the University of California.*

A comprehensive bibliography, covering both admissions practices and issues through early 1977, supplements the review.

1:1.0/77-3

The Many Faces of Educational Consumerism, Joan Stark and Associates, 224 pp. (Lexington Books, Lexington, Mass.).

If there was a book about "everything-you-always-wanted-to-know" about student consumerism, this is it. The chief value of this multi-authored document is its comprehensiveness. The book begins with the historical antecedents of the student as an educational consumer, and continues with a well-balanced presentation of debates concerning responsibility to protect the student. It ends with productive suggestions involving Government agencies, students and institutions.

Throughout most of the book, the authors are critical of institutions for not following fair practices. Theirs is largely a consumer viewpoint, yet opposing views are also represented.

Aside from its comprehensiveness, one of the book's important values is the clear exposition of issues. Another is the substantial list of references at the end of each of its 16 chapters.

1:1.0/74

College Transfer Students in Massachusetts: A Study of 20,000 Transfer Applicants to 48 Massachusetts Colleges and Universities for Fall 1973, Ernest Beals, 103 pp. (Massachusetts Board of Higher Education, Boston) ED 096 927 MF–$1.14; HC–$6.31.

Ernest Beals has published the most detailed State-level analysis of transferring students to date. In the late 1960's the students in northeastern institutions were finding opportunities to transfer among institutions severely limited by the restrictive practices of both public and private institutions. According to the author, Massachusetts with most of the students and institutions had a particularly chaotic situation. These institutions would not allow credits to transfer, and private institutions would not accept community college students from public institutions. There appeared to be a need for more information about transferring students: From where do the transfer students come, and in what numbers? Where do they apply? Where are they rejected? Where do they enroll? What are their previous and current academic characteristics? What are their important demographic characteristics? What are the transfer students' educational aspirations?

This is probably the best example of a statewide transfer study, providing as it does answers to all of the questions posed above, and others. The report, now only available in micro-fiche through Educational Resources Information Center (ERIC), describes the method of study and presents data effectively as a guide to State planning. A survey form is illustrated in the appendix along with a modest bibliography.

1:1.0/73-1

Continuity and Discontinuity: Higher Education and the Schools, Carnegie Commission on Higher Education, 116 pp. (McGraw-Hill Book Co., New York).

This Carnegie Commission report, one of a series, focuses on the interactions between high schools and colleges. The discussion is set in an historical perspective including the last 100 years of admissions practices and ranges widely to include discussion of the value of the doctor of arts degree and the education of both teachers and high school administrators. Particular topics include: the college admissions processes, how high school and college curricula are reciprocally influential, the desirability of new structural patterns to improve admissions, and the mechanism by which high school-college relations are maintained.

There is a substantial range of material in this modest volume. The concluding 30 recommendations, although lacking focus, do weigh State and national policy considerations in the full context of high school-college relationships.

1:1.0/73-2

Middleman in Higher Education, Frederick Kintzer, 188 pp. (Jossey-Bass, San Francisco).

Instead of the author's term "middleman," the book's title might better represent the content if it were "Transfer Admissions in Higher Education." The book's emphasis is upon transferring from the community college to a baccalaureate-degree-granting institution; the content, however, ranges from articulation problems between high school and college to articulation problems among postsecondary institutions.

While several recent titles have focused upon articulation, no book comments better on the latest perspectives. The one exception is that the 50 very brief State profiles are now out-of-date. Even the author's 1974, *Updating Statewide Articulation Practices* (ED-105-949. MF-$1.14; HC-1.88), published by the Institute of Higher Education, University of Florida, is dated.

Most of the book consists of sample articulation programs that States had studied and implemented. The major value of the book is not, however, program description but clues on how State planners might evaluate the effectiveness of different articulation models. The one caution about the book—possible now because of hindsight—is not to accept the optimistic statements about how well this or that State system policy is working.

See also: 12:1.4/72-2 Where Colleges Are and Who Attends, C. Arnold Anderson, Mary Jean Bowman and Vincent Tinto, 303 pp. (McGraw-Hill Book Co., New York).

2.0 RETENTION/ATTRITION

1:2.0/78

"Studies of College Attrition: 1950-1975," Timothy Pantages and Carol Creedon, *Review of Educational Research*, Vol. 48, No. 1, Winter, pp. 49-101.

The primary value of this literature review is a comprehensive taxonomy of attrition/retention-related phenomena: age, sex, socioeconomic status, hometown location and size, size and type of high school, high school GPA and class rank, scholastic aptitude, first semester college grades, study habits, motivational level and commitment, reasons for attending college, vocational and occupational goals, educational interests, parental influence, peer-group influence, personality traits, college environment and personality, college size, housing, student-faculty relationships, finances, health, student reports of reasons for withdrawal, sex differences, type of institution, types of dropout, the withdrawal procedure, and programs to reduce attrition. Only race and religion are not included. A sample of the literature is discussed in relation to each portion of this taxonomy. And the review article contains the most exhaustive bibliography outside of Cope and Hannah (1975). The authors conclude, and correctly, ". . . that attrition is the result of an extremely intricate interplay among a multitude of variables."

Aside from their conclusions, the authors' other summary observations are dubious as the authors may generalize too far from a limited number of studies on any single part of the taxonomy. Moreover, while their review appeared in 1978 and the title indicates comprehensiveness through 1975, it appears the work actually was done in the early 1970's, as it does not include many of the more significant studies of the mid-1970's, particularly Astin's *Preventing Students from Dropping Out* (1975).

Departing at the conclusion from their review of attrition literature, the authors present 11 program ideas to enhance student retention.

1:2.0/75-1

Preventing Students from Dropping Out, Alexander W. Astin, 204 pp. (Jossey-Bass, San Francisco).

Alexander Astin, clearly *the* expert on nationwide student attrition/retention data, has written this book on the basis of a 1972 follow-up study of over 100,000 students who entered college in 1968. The strength of the book in matters of planning and policy is that it focuses upon tractable variables: financial aid, effects of employment, place of residence and campus environment, characteristics of the college, and matching student and institution. In addition, Astin presents a prediction model that might help institutions identify students who are "attrition prone" as part of an early warning system. The book also presents the literature's most carefully considered definitions for such terms as "dropout," "persister," and "stopout."

Astin's conclusions regarding the impact of various forms of financial aid such as loans, parents, and scholarships and the effects of employment should be carefully studied to avoid simplistic policy approaches. He lucidly explains the caveats for both research and policy, and ends the book with a complete taxonomy of the implications of attrition/retention for institutions, for State and national policy, for students, and for further research.

1:2.0/75-2

Revolving College Doors: The Causes and Consequences of Dropping Out, Stopping Out, and Transferring, Robert Cope and William Hannah, 190 pp. (John Wiley, New York).

While this book was written to help *institutions* identify and respond to the loss of students through attrition, it still contains the most complete bibliography on attrition/retention research and the most comprehensive analysis of national rates of attrition by type of institution. Therefore, it is still an important reference for State and national planning and policy.

After a substantial review of research on attrition/retention, the authors present a series of case studies of institutions and students, to demonstrate the multifaceted problems associated with the "revolving college doors." They conclude that stopping out, delayed entrance, transferring, even dropping out are not harmful to either student or institution.

Appendices include illustrations of forms used in retention studies.

See also: 20:1.3/68 Beyond High School, James W. Trent and Leland L. Medsker, 33 pp. (Jossey-Bass, San Francisco).

2

Campus and Building Planning

Alan C. Green
assisted by Seymour Zachar

A college or university campus is more than the sum of its buildings. It is the physical expression of the institution, its activities, and purpose. A campus provides a sense of place, a feeling created by the physical quality of its buildings, open spaces, landscaping, and setting—whether ivy-covered or urban gray.

A campus is a specialized place and its buildings are designed to perform specific functions. While no one facility is unique to higher education, it is the only enterprise in our culture that brings together in one place offices, libraries, classrooms, research laboratories, residence halls, theatres, gymnasiums, heating plants and maintenance shops.

The literature that has been selected for this section provides basic information for two audiences—the owner/client of college campuses, represented by administrative and academic officers—and the architect/planner who, under contract to the institution, provides design and planning services.

The works selected have been divided into three sections: Planning Issues and Resource Allocation; Environmental Issues; and Facility Types.

Planning Issues and Resource Allocation. The references in this section attempt to move the reader away from traditional campus planning concepts. Whereas past planning assumed that changing needs were best met by new, costly, and energy-intensive structures, planning today must look at the efficient use of physical resources. Although few, if any campuses are being planned *de nouveau,* there remains a demand for new buildings, alterations and additions to existing plants. In addition, the concerns of planning have moved beyond the campus gate and must take a macroview of the society and the world in which the campus lives.

Environmental Issues. This section is intended to provide both client and designer with an awareness of major environmental issues. Works selected provide the academic officer general information and background on selected topics, and give the architect/planner technical information. It is intended that the works chosen will establish between the client and the technical person a common language and information base covering such areas as lighting, landscaping, accessibility and planning.

Facility Types. Campus buildings represent a wide spectrum of facility types, usually involving special design requirements. These references provide the architect and client with specialized information on the more common types of campus buildings.

These selected references deal with the physical concerns and planning of the campus and its buildings. The entries represent a starting point for anyone engaged in physical planning, and identify further reading for persons going into greater depth in areas of special concern. They also reflect a number of current issues such as accommodation of handicapped and elderly students, adaptive reuse of older buildings, incorporation of instructional technology, and design for energy conservation.

TOPIC ORGANIZATION

2: Campus and Building Planning

- 1.0 Planning Issues and Resource Allocation
- 2.0 Environmental Issues
- 3.0 Facility Types

1.0 PLANNING ISSUES AND RESOURCE ALLOCATION

2:1.0/78

The Graying of the Campus, Ruth Weinstock, 160 pp. (Educational Facilities Laboratories, New York).

This book is not about urban campuses, deferred maintenance, or power failures–images which the title might imply. Rather it is about one of the growing segments of the population–that over 55 years old–and the implications it may have for higher education.

The book is not a planning guide. It reviews the characteristics of the older population–numbers, financial status, educational attainment, employment, household composition–and the kinds of programs and services they are seeking from higher education. It also provides guidance for the institutional response–credit/non-credit courses, support services, how to get programs started, relations between older and younger students, administrative arrangements, and scheduling.

Of most interest to physical planners is the chapter "Environments to Fit." Here the emphasis is not on major capital investments, but on environmental management that assures a better fit between the campus environment and the older students. Included is guidance on physical barriers, transportation, information systems, lighting, acoustics, thermal comfort, special seating facilities, out-reach sites and the like.

Woven throughout the book are brief case studies of model programs, legislative and financial issues, statistical information, and a large number of photographs demonstrating that the older person is typically active, involved and very much with it–and an important constituency for higher education.

2:1.0/77-1

Architecture and Energy, Richard G. Stein, 322 pp. (Anchor Press/Doubleday, Garden City, New York).

Campus architecture, especially on our older campuses, represents the range of architectural styles, construction, materials and environmental comfort technology of the society and time in which it was built. Richard G. Stein's book carefully analyzes how and why our most recent campus buildings are expensive to heat, light, maintain, and operate. Technical terminology is explained and the reader should quickly learn the basic principles of environmental control. Stein does not offer ideas for "energy conservation," instead he discusses the style future architecture might take in keeping with the principles of designing in harmony with nature.

The book is well-documented, indexed, and although it does not contain a glossary, terminology is well-explained. The nontechnical person will quickly understand "btu" and "kwh."

The book can easily be read cover to cover, but the book's organization allows selectivity. While parts of the book will read like the typical litany of the "energy crises," the work bridges the gap between the architect and the nontechnical reader.

2:1.0/77-2

Space Costing: Who Should Pay for the Use of College Space?, Sy Zachar, 43 pp. (Educational Facilities Laboratories, New York).

This book argues for cost accounting or "space costing," the operating and maintenance expense of the physical plant to the academic units that occupy the space. It discusses how space costing might affect three areas of an institution's financial and resource distribution: the utilization of space on campus, the cost and funding of plant operation, and the recovery of overhead costs for research.

The work touches on the relationship between plant and institutional mission, relationship of the physical plant department and the academic departments, territoriality (my office, my building), changing curricular and enrollment patterns and their impact on space utilization. A model of space costing is presented. The model is a decentralization of the plant resource allocation process. A listing of resources and examples of institutions that presently "space cost" is also provided. The book concludes by weighing the pros and cons of space costing.

2:1.0/76

Energy Management, Energy Task Force, 140 pp. (National Association of College and University Business Officers, Washington, D.C.).

One of the most comprehensive works in the field of energy conservation, this manual was specifically written for higher education. It was developed for energy management workshops, and stands as a major work in the field.

The manual was designed for those "two campus administrators who bear prime responsibility for an energy management program—the physical plant director and the chief business officer."

It offers a step by step approach to energy management. The writing is clear and the work well-organized. Some of the major section and subsection headings are: How Energy is Used, How Energy is Wasted, The Importance of a Data Base, Evolutionary Approach to Energy Management, Energy Finance and Investment, Sources of Funding, Economic Analysis Tools, Criteria for Choosing Energy Management Projects, Analysis of Purchased Utilities, Rate Structures, Power Factor, Demand Control, Utility Consultants, Energy Management and Organization Incentives. This handbook belongs in the planning, physical plant and business offices of every campus.

2:1.0/75-1

Campus in Transition, Richard Dober and Cy Sargent, 74 pp. (Educational Facilities Laboratories, New York).

For the higher education administrator and planner, the 1970's has been characterized as the decade in which "the only constant is change." Most of the planning assumptions of the post-war decades (notably growth) have been subject to serious challenge. This report reviews these changing viewpoints–in financial constraints, institutional fragility, demographic shifts, changes in the "going rate," and new programs and service demands–and relates them to strategies for management of the physical plant. These strategies include redeploying campus space and time, using non-campus facilities as well as found and interim space, interinstitutional cooperation, and generating revenue from campus facilities. Examples of each strategy are included.

Although some of the data used to define the changes are dated, the underlying theme that planning assumptions must be challenged in the face of new conditions remains valid, as do the strategies for managing space. The report makes clear, especially for boards and administrators, that "business as usual" is not an adequate response to campus facilities planning.

2:1.0/75-2

Long-Range Planning Kit, Satish B. Parekh. Contains: "Long-Range Planning," 77 pp. and 10 model planning questionnaires, (Change Magazine Press, New Rochelle, N.Y.).

In the introduction, the author states, "This book is intended to bridge the gap between planning and its implementation. If it serves no other purpose than to help coordinate action to carry out the educational programs of the institution, its aim will have been accomplished. In higher education, planning is designed to serve education and not just the administrative support structure. Hence in colleges and universities planning is not just one of the traditional management functions, but a comprehensive institutional responsibility shared as equally by the comptroller as by members of the faculty.

"The model described here shows how the planning process permeates activities taking place at an institution every day, in the English department or the admissions office, in the president's office or the division of arts and sciences. This is not done through some magical new arrangement of activities but by providing a common understanding of what the institution is, where it stands, and what it wants to be. Thus, effective planning is not simply a matter of college managers setting objectives to be achieved by various offices and departments. Rather, it is a process generated by common perceptions of what the college as an entire community must do to achieve its purposes. The planning process presented in this model is a modus operandi for the institution at every level. Utilizing . . . various matrices, it incorporates administration, faculty, student body, board of directors, and even community representatives. This means that planning is not imposed from the top in a linear cause-effect sequence but is done everywhere at once as commonly perceived goals become the operational substance of the institutional program."

This relatively brief work presents a planning process for an institution. It is an outline, yet it is complete. No one model can be all things to all institutions and this work does not attempt to be, rather it tries to clear a path through the process. This is achieved through a series of matrices, each of which is designed to delineate part of the planning process. These matrices are: mission, goals, responsibilities, activities and resource plan. Also covered are evaluation and "organizing for planning."

This book contains 10 questionnaires, each of which is designed to "promote a greater awareness and understanding of the mission of the institution and the relatedness of each of its parts."

Each questionnaire is designed to be an aid to planning at the divisional level—academic departments, administration, finance, plant operations and maintenance, student services, registrar's office, admissions and counseling, placement, student financial aid, and development/institutional advancement. "These are the areas most involved in the front lines of educational issues: they are the most integral to institutional planning, and they have the broadest and most significant impact on the institution's overall activities." The questions enable self evaluation, assessment of strengths and weaknesses, goal-setting, and provide a focus for planning. Use of the questionnaires is explained and is tied to the book *Long Range Planning*, but also can be used independently.

2:1.0/75-3

Planning Building and Facilities for Higher Education, Unesco, 137 pp. (Dowden, Hutchinson & Ross, Stroudsburg, Pa.).

This work has been developed by Unesco for developing countries planning higher education institutions. The Guide, as it is referred to, is intended to be used by administrators responsible for planning, architects, and those responsible for execution of projects. The planning process is first explained briefly, including the concept of "critical path," a program evaluation and review technique.

The planning, construction and eventual operation of the facilities is broken down into 63 procedures. These in turn are arranged into six groupings: policy, planning, primary brief (programming), secondary brief, primary implementation (design and construction documents) and secondary implementation (construction).

The work, which includes a bibliography, is based primarily on American and British sources. The writing style is British and very concise.

"This Guide has been written so that it can be used in several ways. . . . it can be used as a text book which introduces the reader to the various procedures involved in planning, design and construction of higher education facilities." It can also be used as a workbook.

The value of this book is that it spans facilities planning and construction in a brief and concise manner. While not entirely suited to American institutions, this work can be used as a starting point as well as a general outline for any individual involved in campus and facility planning.

2:1.0/75-4

The Oregon Experiment, Christopher Alexander, Murray Silverstein, Shlomo Angel, Sara Ishikawa, Denny Abrams, 190 pp. (Oxford University Press, New York).

This book is the master plan for the University of Oregon, but it does not contain multi-colored fold-outs on enrollment projections, nor the site for future parking lots. The master plan at Oregon is a process.

As the book states, typically, "a university master plan is a map. It is a map which portrays the university as it 'ought' to be, at some fairly distant future time—say twenty years from now. The map contains two kinds of elements—those which exist already and should according to the planners, stay where they are; and those which do not now exist, and which need to be built. Implementing such a plan, at least according to theory, is simply a matter of filling in the blanks, according to the land uses prescribed by the map. This approach seems sensible in theory. But in practice master plans fail—because they are too rigid; they cannot easily adapt to the natural and unpredictable changes that inevitably arise in the life of a community. It is simply not possible to fix today what the environment should be like twenty years from today and then to steer a piecemeal process of development toward that fixed, imaginary world."

The book recommends that the University of Oregon, and any other institution or community which has a single owner and a centralized budget, adopt "six principles" to replace its conventional master planning and conventional budgetary procedures. These principles are: organic order, participation, piecemeal growth, patterns, diagnosis, and coordination.

These six principles provide direct linkage with users, planning officials and architects. They allow for new construction and changes through expansion of existing order, rather than establishment of a new one. Future plans and needs develop from the campus rather than the needs being determined for the campus. User participation committees are structured through planning. Planning is coordinated and ordered and campus-wide. The Oregon Experiment moves planning from the top of the institutional pyramid to the base.

This approach to campus planning is in operation at the University of Oregon. It is not simply abstract thinking.

2:1.0/73

Educational Planning, Frank Banghart and Albert Trull, 463 pp. (Macmillan Publishing Co., New York).

Comprehensive educational planning is the development of a long-range guide that will use the best resources available to attain educational objectives and allow for continuous evaluation of the problems of the planning process itself. To accomplish this task, the book presents a 7-phase model. In turn, each phase becomes a section of the book. These are: 1) defining the educational planning process; 2) analyzing the planning problem area; 3) conceiving and designing planning tools; 4) evaluating plans; 5) specifying the plan; 6) implementing the plan; 7) monitoring the plan in action.

The book has three stated objectives: to provide an understanding of planning procedures; to bring the interdisciplinary developments to the planner's attention (specifically urban processes and activity, economics, evaluative methods, and simulation); ". . . to reveal the general tools of analysis, evaluation and control usable in comprehensive educational planning processes, and especially those related to the planning of physical environments. . . ."

The book is not a how-to manual. It attempts, instead, to provide a framework by which educational planners and others may use new tools or develop new approaches for solving the physical planning problems for an educational environment.

The focus of this book is the planning of primary and secondary schools. But the majority of the text deals with the planning process. The scope and breadth of the book's treatment of planning is enormous.

Of major significance is the work's specific attention to physical planning. In addition to being a planning book, it is a scholarly work drawing on history, sociology, economics, and management. The work is very well organized and leads a reader through the entire planning process while providing a cognitive base that is both integral and absorbing.

2:1.0/63

Campus Planning, Richard P. Dober, 314 pp. (Reinhold, New York).

This is a book for architects and planners, whether within the structure of a college, university or university system, or in private practice. With its large horizontal format, three columns of text, abundant photos, plans, diagrams, tables and charts, and sources for additional information, the book presents a comprehensive view of the American campus.

There are two main sections, "The Campus and Its Parts" and "Campus Plans." The former includes chapters on various facility types—instructional, libraries, housing, student unions, research, etc. The latter is somewhat misnamed as it focuses primarily on the planning process with examples of physical plans as products of that process.

The book is enriched by a chapter on the historic evolution of the American campus, and by subchapters on "Social Phenomenon as Factors in the Academic Plan," "Style as Structure," and "Design Transition." It is more than a how-to and picture book; it is a thoughtful examination of many non-physical issues that must be considered in planning.

It is a book from the mid-1960's, and its outlook is basically for growth. It does not deal with several current issues: notably the changing nature of the student body, access by handicapped people, energy, and health and safety regulations. This does not render the book invalid; it does suggest that an update of this volume would be a contribution to the field.

See also: 19:1.4/71-1 Higher Education Facilities Planning and Management Manuals (7 vols.), Harold L. Dahnke, Dennis P. Jones, Thomas R. Mason, and Leonard C. Romney, 393 pp (Western Interstate Commission for Higher Education, Boulder, Colo.).

2.0 ENVIRONMENTAL ISSUES

2:2.0/78

Learning From Fire: A Fire Protection Primer for Architects, Lars Lerup, David Cronrath and John K.C. Liu, 99 pp. (University of California, Berkeley).

This report presents "a framework for the integration of fire safety issues within the larger context of the architectural design process." The work provides the architect with the knowledge and the vocabulary needed to communicate effectively with fire protection engineers and building officials.

The work is divided into four sections. The introduction discusses the fire problem in this country and gives a general overview of fire protection. The second section familiarizes readers with the vocabulary of fire, including "dwelling typology, walls or barriers, room and compartments, protection of people and the concept of fuel." The third section presents a model of fire development. Starting with the chemistry of fire, it dissects and describes fire "from its ignition to its termination, inside the confines of a spatial envelope." The last section develops the fire model into a design tool. According to the book, this tool will: 1) point to the salient features of the physical environment in terms of fire safety concepts, 2) permit the designer to make judgments about the physical environment in fire safety terms, and 3) help facilitate the interaction between the architect and the fire protection engineer.

Three residential building types were selected to serve as examples. Two are typical of the college setting—attached ground access and attached elevated access. But the model is not restricted to the residential setting, but rather illustrative of the fire protection problem in all building design.

The primer is an attempt to move architects towards a "performance oriented" approach to fire protection instead of through building codes which often result in the "lack of fire protection rather than its integration in the design process."

2.2.0/76-1

An Approach to the Design of the Luminous Environment, Albert G.H. Dietz and William M.C. Lam, 137 pp. (State University Construction Fund, Albany, N.Y.).

This report is divided into two parts, design principles, and design practice. Beginning with an extensive glossary, the book carefully takes the reader through an explanation of "how we see, what we look at, what we see and how well we see."

Part two, on design practice, is a how-to manual that takes the reader through programming, lighting budget, and design process. Programming contains a Space Program Chart (SPC) which "is a comprehensive summary of all relevant criteria (except cost) that a designer needs in order to begin preliminary planning of a lighting for a particular space." Used as a communication tool, among designers, clients, and programmers, the SPC can be used to develop and evaluate design alternatives. The lighting budget attempts to balance comfort, durability, appearance, and cost. The designer is taken through the "budgeting process" step by step, based on performance criteria required.

The last section lays out the entire design process in linear format for the designer and client. Finally, a rating sheet is provided for comparing various systems. The appendix includes an extensive bibliography.

2:2.0/76-2

Architectural Accessibility for the Disabled of College Campuses, Stephen R. Cotler and Alfred Degraff, 133 pp. (State University Construction Fund, Albany, N.Y.).

With the Department of Health, Education, and Welfare's April 1977 issuance of the regulations for enforcement of Section 504 of the Rehabilitation Act of 1973, another mandate was given to college and university planners—accessibility for the handicapped.

This is a good basic reference document for planners concerned with the *architectural barriers* aspects of accessibility. The basic technical resource material, planning goals, and rationale for proposed access changes are thoroughly outlined. It is not a guide for meeting "504" per se, but will be helpful as a resource for an institution as it undertakes planning for the handicapped. Such planning must include program accessibility and support services which this report does not cover. It is also limited in information for other than physical handicaps and does not place particular emphasis on facilities modernization.

A comprehensive policy section specifically written for planners reviews administrative policy problems and discusses solutions and institutional goals and objectives. Especially helpful are the sections on "rationale" that introduce each area of concern. Dimensions are given in both feet/inches and metric measure.

2:2.0/76-3

Handbook of Landscape Architectural Construction, Jot D. Carpenter, ed., 700 pp. (Landscape Architecture Foundation, McLean, Va.)

Set in a 3-ring binder, this handbook is a compendium of 26 monographs which together represent a first attempt to document the "scope and content" of landscape architectural construction.

While the editor recognizes that he has not covered the entire field, the work is comprehensive in scope and depth. Written by teachers and practitioners in the field, the monographs are well-illustrated, contain photographs, design specifications and detailed elevation charts.

The monographs are: Preparation of Construction Plans, Layout of Landscape Elements, Environmental Impact of Construction, Surface Drainage and Structures, Subsurface Drainage Systems, Site Detailing, Water Systems and Irrigation, Concrete, Asphalt, Wood, Masonry, Paving, Retaining Walls, Water-Pools and Fountains, Rooftop Landscape Development, Light Building Construction and Canopies, Sports Facilities, Utility Design, Fences, Outdoor Electrical Systems, Pedestrian Circulation, Vehicular Circulation, and Legal Responsibilities and Record Keeping.

2:2.0/75

Designer's Guide to OSHA, Peter S. Hopf, 289 pp. (McGraw-Hill Book Co., New York).

As the guide states, "An architect who undertakes the design of a building where people are employed or a plant manager who is responsible for operating virtually any type of facility is concerned with part 1910 of OSHA." The book's intent is to provide graphically the requirements of the act as they affect building design and operation.

The book takes the relevant OSHA standards for specific design and working conditions, (materials handling and storage, electric power, ionizing radiation protection, ventilation, etc.) and provides design and construction methods, using text and graphics, for each specific standard. This work is equally important to the physical plant and the planning office.

2:2.0/73

Defensible Space, Oscar Newman, 264 pp. (Macmillan Publishing Co., New York)

The author maintains that "Defensible space is a model for environments which inhibits crime by creating the physical expression of a social fabric that defends itself. . . . an environment in which latent territoriality and sense of community in the inhabitants can be translated into responsibility for ensuring a safe, productive, and well-maintained living space." He sees "defensible space" as a surrogate term for the range of mechanisms – real and symbolic barriers, strongly defined areas of influence, and improved opportunities for surveillance – that combine to bring an environment under the control of its residents.

Although the text only discusses residences in urban locations, (including two college dormitories), the concept of defensible space to provide security can be applied to urban and rural campuses. There are significant detailed discussions of territoriality, institutional image and milieu, natural surveillance, and the impact of density on inhabitants.

2:2.0/69

Personal Space, Robert Sommer, 177 pp. (Prentice-Hall, Englewood Cliffs, N.J.).

"With or without a conscious philosophy or explicit recognition of the fact," the author states, "designers are shaping people as well as buildings."

The book questions the way and by whom design is done. Who makes our environmental decisions? From systematic observations of people, the author questions the design and administration of space, and the relation they have with the users of that space. The institutional setting is the primary focus of the work, including nursing homes, prisons, schools, colleges and universities. A particular advantage of the work is that much of the research and many examples are drawn from the college campus and this gives the work additional meaning. Although it does not necessarily provide answers, this work raises important issues for anyone involved in institutional planning and design.

3.0 FACILITY TYPES

2:3.0/74

Planning Facilities for Athletics, Physical Education and Recreation, 210 pp. (The Athletic Institute, Chicago).

Although other books deal in more detail with specific facility types, the value of this loose-leaf report lies in its comprehensiveness. Planning for physical education, athletics and recreation is more than fields, gymnasiums, and swimming pools, and this report also deals with planning for intramurals, teaching and research about physical recreation, camping, community-based recreation, and accommodation of the handicapped.

The treatment of the subjects tends to be uneven; lockers and showers are covered in great depth, while the relationship between recreation facilities and other campus elements are almost neglected. Planning for non-discrimination by sex is not covered.

The "Check List for Facility Planners" is useful, as is the glossary and the annotated bibliography. The looseleaf format suggests that additional material may be added. Ideally the Athletic Institute will do just that, and provide planning information in new areas of concern.

2:3.0/73

Time Saver Standards for Building Types, Joseph De Chiara and John Hancock Callender, 1065 pp. (McGraw-Hill Book Co., New York).

The book has long been known to the architectural and design professions. The work is cited here so that clients and users may also avail themselves of this excellent guide to basic program and design criteria. The section on college and university facilities covers: gymnasiums, physical education and sports facilities, fieldhouses, dormitories, libraries, student unions, computation centers, communications centers, regional education centers, large-group facilities, programs and programming. The specific sections are either written by, or draw upon the work of, significant contributors to the field, including many authors cited in this bibliography. An academic or administrative officer planning facilities would do well to read the respective section of this book.

2:3.0/72

College Students Live Here, Harold C. Riker, 150 pp. (Educational Facilities Laboratories, New York). **Student Housing**, Judy Tolmach, 72 pp. (Educational Facilities Laboratories, New York).

Though the first volume is nearly two decades old (some would say two eras old) it is nonetheless a classic. The basic programming, planning, and design criteria it offers remain valid as the physical facility issues have not changed as much as the governance issues. The document is comprehensive, thoroughly illustrated, and a pleasure to read.

However, because of its age it is lacking in three areas: planning for the handicapped, planning to minimize operating costs, especially energy, and rehabilitation and modernization. The latter deficit is covered in the suggested companion report *Student Housing*. Published in the early 1970's when college housing became a buyer's market, *Student Housing* covers "what do students want?" and responses such as recycling, living-learning arrangements, and apartments. It also provides alternative ways of delivering college housing through turnkey, design-build, and lease arrangements.

2:3.0/66-1

The Office, Robert Propst, 71 pp. (The Business Press, Elmhurst, Ill.). Available from: Herman Miller Research Corp.

Too often, too little attention is given to the working environment of the college administrator and faculty member—the office. This book does not fill the need completely, because it is not a planning guide for college offices per se. Rather, it is a report on the office as a generic place of work.

It was written by one of America's noted environmental researchers, and it therefore analyzes the work functions, human design factors, and non-environmental relationships that should be considered in office planning. It is not a cookbook; it will not give the reader square footages, ratios, or other quantitative data. It is a book to help the planner think about the office as human habitation, which is a good way in which to begin the planning process.

2:3.0/66-2

New Spaces for Learning: Designing College Facilities to Utilize Instructional Aids and Media . . ., Harold D. Hauf, Wayne F. Koppes, Alan C. Green, Morton C. Gassman and Davis S. Haviland, 137 pp. (Center for Architectural Research, Rensselaer Polytechnic Institute, Troy, N.Y.).

It is rare these days to plan a large-group (over 50 or so) instructional space in which films, tapes, slides, overhead transparencies, and television are utilized as an integral part of the instructional process. Especially important are the relationships between student/teacher and the information display surfaces – minimum and maximum distances, viewing angles and arrangement of seating. The criteria also includes lighting, acoustics, furniture, display surfaces, and controls.

This book contains a series of design studies illustrating the design principles and criteria for such instructional space, together with a case study, and spatial relationships "communicators."

There have certainly been advances in instructional technology in the last decade (for instance the introduction of projected television), but these to not invalidate the principles that relate viewer, teacher, information display, and facility design.

2:3.0/65

Planning Academic and Research Library Buildings, Keyes D. Metcalf, 431 pp. (McGraw-Hill Book Co., New York).

This work deals with the planning of academic and research library buildings. The book is addressed to six different groups: 1) presidents, governing boards, and administrative offices; 2) library building planning committees; 3) librarians and their staffs, 4) library schools, library school students, and other librarians interested in administration; 5) the library building planning team, and 6) architects, engineers, and consultants.

The book is divided into two parts, "Basic Information on Library Building Planning," and "Planning Process." Chapter heads in Part 1 include: Library Objectives and Their Relation to Aesthetic Problems, Quality of Construction, Function, and Cost; Financial Matters, Problems Relating to Height; Traffic Problems, Accommodations for Readers and Staff; and Furniture and Equipment. Part 2 of the book integrates the information into library planning, programming, and construction documents. There is even a section on the library's dedication and opening ceremonies. The work contains program examples, formulas and tables, equipment lists, and an extensive annotated bibliography.

2:3.0/64

Theatres and Auditoriums, Harold Burris-Meyer and Edward C. Cole, 376 pp. (Van Nostrand Reinhold, New York).

This comprehensive and detailed book is the classic on this subject. It is not a book about campus theaters and auditoriums per se, but about the generic facility type.

The starting point for the book is the audience—how it sees and hears, circulates in and around the hall, and, what conditions affect its comfort and safety. Then the book covers the mechanical aspects such as climate control, stage craft and machinery, lighting and support services. The final chapter, "over-all considerations," contains a useful summary dealing with issues such as theater function and architectural style, growth, and built-in deterrents.

This book should be the starting place for theatre and design professionals.

2:3.0/63-1

Buildings and Facilities for the Mathematical Sciences, J. Sutherland Frame and John W. McLeod, 169 pp. (Conference Board of the Mathematical Sciences, Washington, D.C.).

This report is a product of the booming 1960's when major campus building programs were undertaken to accommodate enrollment growth, especially in the sciences.

Although emphasis is placed on the mathematical sciences, the report contains programming and planning guidance appropriate for several more general campus facilities—classrooms, seminar rooms, lecture halls, study areas, and faculty offices. It deals with size and proportions of rooms, inter-relationships of facilities, furniture and arrangements, planning for projected media, lighting, etc.

The first few pages concerning the "changing scene"—enrollment trends, job opportunities and teacher shortage—are dated. Also the few pages on "computation centers" gives inadequate coverage for today's planner. (Who in the mid-1960's predicted the advent of the individual electronic calculator and mini-computer, much less the demise of the slide rule?). Otherwise, the report remains a useful facilities planning guide.

2:3.0/63-2

Laboratory Planning for Chemistry and Chemical Engineering, Harry F. Lewis, ed., 522 pp. (Reinhold, New York).

This is a reference book for professionals designing and specifying collegiate teaching and research laboratories. It is also a useful guide for members of a faculty committee assigned to prepare a program for laboratory requirements.

Moving from "general considerations" to "specific considerations" (plumbing, ventilation, electrical services, etc.) and on to "health and safety factors," the book provides a thorough review of functional issues. These are applied to various laboratory types ranging from high- and low-level radioactivity laboratories to those used for inorganic synthesis.

Especially useful is the section on recent laboratory construction, including a listing of projects completed from 1951 to 1961. If this list were updated and information added on energy utilization and accommodation of the handicapped, the current value of this already comprehensive book would be enhanced.

2:3.0/61

Modern Physics Buildings, R. Ronald Palmer and William Maxwell Rice, 324 pp. (Reinhold, New York).

This book is similar to *Laboratory Planning for Chemistry and Chemical Engineering* (2:3.0/63-2) as it covers in detail a specialized type of campus facility. It differs in one respect. In this book the context is the building, of which the laboratory is only one component.

Each chapter deals with a component of the physics building—lecture room, classroom and seminar rooms, teaching laboratories, research laboratories, shops and auxiliary rooms, offices and conference rooms, and library. Also included are floor plans and brief descriptions of 33 physics buildings, including some unrelated to campuses.

The book is especially useful for institutional planners and faculty members of planning committees.

3

Comparative Planning Systems

Burton R. Clark

Each country organizes its national system of higher education differently. The basic educational and governmental structure determines the degree of planning, who plans and for what organization, and where the power is located to turn plans into policies and then implement the policies. Some countries have an essentially single nationalized system with one sector; others have a single system with multiple sectors. In other cases there is a division of educational authority between national and provincial/state levels of government. Control in this kind of structure commonly originates at the provincial level, although national bodies have ascended to power in recent decades. Lastly, some systems have major private sectors as well as public ones.

Planning is shaped accordingly, taking place where the primary coordinating power is located. This means that planning may be national and unitary, as in Sweden; national and plural, as in France; essentially provincial as in Canada; or even extensively fragmented, as in the United States. In the United States we have a mixture of autonomous private control, State control, and now even some Federal control in the form of various routes of departmental and bureaucratic funding.

The major components of this topic are those studies which 1) best illuminate the similarities and differences among the basic organizations forms of various countries; and 2) show directly or suggest indirectly how the primary structures shape planning. The volumes annotated review the effectiveness of recent trends and reforms in higher education among various nations. They also examine how such factors as market behavior, political climate, and the distribution of power affect higher education planning.

Growing understanding of other national structures can give fresh perspective on our own planning problems, capabilities, and limitations. Broad studies of national systems are more useful than those of narrow and specific educational plans. Moreover, the few studies of specific plans that are available generally lack contextual detail and a comparative framework. Therefore, most of the selections are national-system studies in which planning is discussed in the context of basic organization.

3.0 COMPARATIVE PLANNING SYSTEMS

3:0/78-1

12 Systems of Higher Education: 6 Decisive Issues. Clark Kerr, John D. Millett, Burton R. Clark, Brian MacArthur, and Howard R. Bowen, 181 pp. (International Council for Educational Development, New York).

This book developed as part of the study of national systems of higher education in 12 countries carried out between 1975 and 1977 by the International Council for Educational Development. Following reports on France, England, West Germany, Sweden, Poland, Canada, United States, Mexico, Japan, Thailand, Australia, and Iran, the present volume was designed as a topical volume that would cut across and summarize the country studies. Six essays by different authors compare national systems on basic characteristics: goals (Clark Kerr), planning and management (John D. Millett), coordination (Burton R. Clark), flexibility and innovation (Brian MacArthur), measurements of efficiency (Howard R. Bowen), and comparative effectiveness (Clark Kerr).

The chapters by Millett and Clark are the ones most relevant to planning. Millett groups countries in several dichotomies—monolithic or pluralistic party systems, unitary or Federal governmental structures, developing or developed economies—as a way of explaining differences observed in the planning and management of higher education systems. After discussing the structures found in each country, he concludes that nowhere among the 12 countries has planning "been particularly outstanding in the years since 1945." Clark places the 12 countries in four types of national educational structure, according to degree of unity of control and form, and suggests four basic pathways of coordination: the bureaucratic, the political, the professional, and the market. He concludes that coordination is effected everywhere by market interaction as well as state authority, and by senior professors as well as state officials, and that the task of planning is to understand the contribution of each of the major forms of coordination and to encourage a fruitful balance among them.

3:0/78-2

Academic Power: Patterns of Authority in Seven National Systems of Higher Education. John H. Van de Graaff, Burton R. Clark, Dorotea Furth, Dietrich Goldschmidt, and Donald Wheeler, 217 pp. (Praeger, New York).

This book, a product of early work done in the Higher Education Research Group at Yale, analyzes how power is distributed within the national systems of higher education of West Germany, Italy, France, Sweden, England, United States, and Japan. Six levels of organization are identified: the lowest operating unit (department or chair); the intermediate campus unit (faculty, school, college); the university or independent college as a whole; the multi-campus university or college system; the state level; and the national level. Authority in different areas of decision-making, such as personnel and finance, is located by level, and national patterns of authority structure are identified, e.g., a European mode that has concentrated power historically at the bottom in the Chair and at the top in the Ministry, with weak campus administration, and an American mode in which trustee and administrative authority have produced relatively strong campus-level integration. Planning has been weak historically in all seven national systems, but has emerged as a strong force in Sweden in the last decade due to the small size of the country, its cultural homogeneity, and the planning capability that has been patiently built in other sectors of government during the last four decades.

The authors conclude that recent reforms in higher education (up to 1975) have primarily strengthened the powers of central and higher levels of organization. In two concluding chapters, Goldschmidt discusses unique features of the national patterns and probes the effects of recent trends and reforms, and Clark develops a set of perspectives and concepts that can help guide future cross-national research in the administration and governance of higher education.

3:0/78-3

Systems of Higher Education: France, Alain Bienaymé, 144 pp. (International Council for Educational Development, New York).

Prepared with the financial support and cooperation of the French government, this report was part of the 12-country study of national systems of higher education carried out between 1975 and 1977 by the International Council for Educational Development. Only a handful of pages (pp. 24-41) bear directly on planning, yet the report merits our attention. Among the large nations of Western Europe, France is *the* planning state; it has attempted to organize higher education as a national system for a century and a half—since the days of Napoleon—and it has used a ministry of education to do so. Reportedly rational as well as modern, the French should be able to plan higher education within a democratic state, if anyone can.

But what do we find? (1) Various *grandes écoles*—an elite sector separate from the universities—have been sponsored by different ministries, making actual control dispersed and overall coordination extremely difficult. According to the author, major reforms since the crisis of 1968, including the separation of higher education from the old ministry into a ministry of its own, have "in no way" dealt with the ingrained dispersal of control. (2) "France," the author observes, "is also subject to the rule usually noted in countries which have a minister of higher education: the millions of pupils and parents in elementary and secondary schools and the hundreds of thousands of employees and teachers give the minister of education a political weight which provides the primary and secondary schools with a decisive advantage over the universities." (3) Planning is bogged down in a struggle for power between central officials and university personnel and students. The plans of central staff are almost automatically resisted, compromised, and severely attenuated, as in the case of new regulations for reorganizing courses of study, passed in 1976, that were intended to reduce graduate unemployment and make the universities more relevant to the job market. The new regulations had the effect of provoking "unexpected hostility from a combined force of teachers and students" which led to at least month-long strikes in over 50 universities, the worst trouble since the great crisis of 1968. (4) While post-1968 reforms have proclaimed greater autonomy for the universities, Bienaymé notes that "we can advance with some confidence the hypothesis that the real power of the central administration [over the universities] has been strengthened, and within it, that of the director of financial affairs." (5) Public and political respect for the universities is at low ebb and the universities are "pervaded by a feeling of gloom."

There is little that planners themselves can do to control the flow of events, despite the established powers and competencies of central government. The politics of university-state relations basically determine what is done.

3.0/78-4

Systems of Higher Education: Canada, Edward Sheffield, Duncan D. Campbell, Jeffrey Holmes, B.B. Kymlicka, and James H. Whitelaw, 219 pp. (International Council for Educational Development, New York).

This is another of the 12 studies of national systems of higher education carried out by investigators in their home countries between 1975 and 1977 as part of a general study organized by the International Council for Educational Development. Since Canada's "system" is fragmented into 10 provincial systems, the Canadian study is organized in four chapters prepared by different experts and devoted to the Atlantic provinces (Newfoundland, Prince Edward Island, Nova Scotia and New Brunswick), Quebec, Ontario, and the Western provinces (Manitoba, Saskatchewan, Alberta, and British Columbia), with introductory and concluding chapters by Edward Sheffield. Planning at provincial and regional levels is discussed in each of the chapters.

Sheffield makes clear the extent to which the Canadians have reversed the trend toward the domination of education by the national government (so evident elsewhere in the world and found in Canada during the quarter-century of direct federal aid to higher education between 1951 and 1976). Federal aid is now quite indirect: Canada has entered "an era of provincial systems." The "state of federal-provincial relations" is the key, making the central government much less influencial in higher education than its potential power would suggest. At the provincial level, the organization of higher education varies considerably, Quebec and Alberta being "most characterized by the planning process." In Sheffield's summary judgment, "planning for higher education in Canada is inadequate at all levels—institutional, provincial, national. Such information systems as exist tend to be both complex and burdensome. Projections, e.g., of enrollment, are undertaken spasmodically rather than regularly. Too much planning is for the local scene and the immediate future." He concludes, however, that decentralization has enabled Canadian higher education to be responsive to regional needs, and, in spite of structural shortcomings, the overall enterprise "serves Canada tolerably well."

3.0/78-5

Systems of Higher Education, Sweden, Rune Premfors and Bertil Östergen, 208 pp. (International Council for Educational Development, New York).

This study, prepared with the support of the Swedish National Board of Universities and Colleges, was part of the 12-country study of national systems of higher education carried out between 1975 and 1977 by the International Council for Educational Development. The report is organized into three topics: design and goals of the Swedish system, with chapters on backgound, structure, and goals; management of the system, with chapters on planning, administration, and autonomy; and effectiveness, with chapters on social effectiveness, innovative effectiveness, and efficiency.

Of all the systems in Western Europe, Sweden's small, nationally-unified system of higher education has perhaps undergone the greatest amount of change since 1960–especially planned change. Sweden has long been oriented to democratic planning; the term planning, the authors point out, has positive connotations; and government bureaus have evolved a planning capacity over some decades. Ministerial planning is very closely linked to budgetary work and to the political process. Deep-probing and future-oriented policy analysis is largely delegated to ad hoc commissions and to central agencies that operate at a second level beneath the cabinet ministries. Numerous commissions, specific or comprehensive, have appeared in the field of education, and they have "adhered to a tradition in educational policy-making in Sweden [of a] close relationship between educational planners and educational research." In the case of the famous "U68" commission which covered all post-secondary education, almost 200 experts were involved in its work during its existence between 1968 and 1974. The specific agency responsible for higher education, recently renamed as the National Board of University and Colleges, is staffed by civil servants and operates much as do parts of the national ministry of education in other countries. Its work involves "rolling planning," a continuously renewed and revised planning for the ensuing three or five years. With all this going on at the top of the system, the authors note that "there has until recently been few things to plan on the part of institutions: central regulations have been too tight to permit the kind of decision-making competence which makes local planning meaningful."

In comparative perspective, the most notable point in this useful study is the authors' emphasis on the growing control of bureaucrats, politicians, and outside interest groups, in contrast to the influence of academics. High-level civil servants have become more influential in more areas of decision-making; politicians enter the decision-making bodies increasingly at regional and local as well as national levels; and, strikingly, organized interest groups, especially those of labor and business, are increasingly included through formal representation in decision-making bodies–a form of democratic corporatism. Corporatism is becoming the Swedish version of lay control. Thus, planning is increasingly carried out in the context of intersecting bureaucratic, political, and corporatist relations.

3.0/78-6

Systems of Higher Education: Australia, Bruce Williams, 93 pp. (International Council for Educational Development, New York).

This study, by the Vice-Chancellor (chief officer) of the University of Sydney, was part of the 12-country study of national systems of higher education carried out between 1975 and 1977 by the International Council for Educational Development. The report is organized into five topics: the design of the Australian system; its objectives; federal and state influences; planning and management; and effectiveness. The author describes the division of "tertiary education" in Australia into three sectors: universities, colleges of advanced education (teachers colleges that have become comprehensive), and colleges of technical and further education and the division of powers between the national (Commonwealth) government and the six states. Constitutionally and historically, control has rested with the states, but on the basis of the power to make financial grants to the states, the Commonwealth government has greatly increased its role. In 1977 it contributed 80 percent of the budget.

The author's review of the growth of system planning at state and national levels indicates (a) considerable variation at the state level, (b) a great amount of change occurring in recent years at the national level, and (c) a current picture of unsettled arrangements. In contrast to continental Europe and the United States, Australia uses commissions abundantly in system planning and coordination, borrowing this mode from the University Grants Committee in Great Britain. In Australia, commissions came into existence at the national level for all three sectors of tertiary education, and boards designed to play a similar buffer role between government and institutions were also created at the state level for the first two sectors. The planning process has become intricate, involving political and bureaucratic officials at two levels of government, the members and staffs of the many commissions, and the institutional representatives. The effort to clear up confusion and to provide overarching coordination led in 1977 to a new Tertiary Education Commission at the national level, with the former national commissions of the three sectors redesignated as subordinate councils.

In a short chapter on "Planning and Management" (pp. 48-68), this study makes a number of interesting points on Australian planning: the use of rolling triennial programming; the distinction between a real plan and a financial plan; and the systematic visitation of commissions to institutions. Most interesting in comparative perspective are the larger traditions and structures of government and education that have fathered the procedures, given them meaning, and made them effective. The author describes one arrangement between the Universities Commission and the universities as "an informal social contract, which depends on a process of direct discussions and mutual trust that the small number of universities and the institutional arrangements made possible." He notes also that Australia has "an open form of planning that [has] depended for its continued success on committees of inquiry to consider major issues and the publication of reports." The institutions typically feel that they are under a "form of iterative planning in which they are closely involved." The Australia framework for planning is one of relatively small-scale organization, close contact among interested parties, and a tradition that independent inquiry by special committee will precede major ministerial decisions.

3:0/78-7

Systems of Higher Education: Japan, Katsuya Narita, 142 pp. (International Council for Educational Development, New York).

Katsuya Narita, a director of research in the Japanese National Institute for Educational Research, prepared this report sponsored by the Japanese government and part of the 12-country study of national systems of higher education carried out between 1975 and 1977 by the International Council for Educational Development. Three major sections are devoted to the historical background and present structure of the Japanese system, its government and management (including policies for planning), and its effectiveness.

The author presents many difficulties of planning in the Japanese system. The system is large and diverse, with private as well as public institutions, municipally-supported as well as nationally-supported institutions, and community and 4-year colleges as well as universities. Whereas the United States moved into mass higher education largely by expanding the public sectors, Japan did so by expanding the private sector. Seventy-five percent of the institutions are now private and encompass 77 percent of the students. Narita says flatly: "The rapid development of mass higher education in modern Japan would not have been possible without the private sector." The public sector, dominated by the Universities of Tokyo and Kyoto, has been selective and rigid; modeled upon the European mode of Chair (instead of Department) organization, it has been devoted to the ideals and standards of the research university. Private institutions, on the other hand, became the dynamic element in expansion by operating in a market of high consumer demand.

The author discusses the efforts of Japanese authorities since the late 1960's to plan and control the general direction of change in this massive system, and particularly to raise standards in the private sector. With these ends in view, various major committees have been at work to devise a national master plan: governmental organs have been reorganized and major laws enacted, the most important of which provide increasing governmental subsidies for private institutions toward a target of 50 percent of operating costs. With the increased governmental aid has come guidelines and rules on what these institutions can and cannot do. Interestingly, the author points out that the government has established three broad planning categories: objectives that must be "achieved as governmental obligations;" those that should be "induced by the government;" and those that should be "initiated freely."

The author maintains that the results of recent efforts to increase planned coordination are still unclear. These results have been piecemeal and incremental, rather than global. Institutional initiation and imitation have remained more powerful than centrally-controlled change. Institutions *know* that their reputations depend on fidelity to certain traditional course arrangements and standards. "Here lies the main reason behind the uniformity and rigidity in curricular structure which is characteristic of the Japanese system of higher education."

3:0/77-1

Systems of Higher Education: United Kingdom, Tony Becher, Jack Embling and Maurice Kogan, 158 pp. (International Council for Educational Development, New York).

This important book, written by three eminent British authorities, was prepared as part of the 12-country study of national systems of higher education carried out between 1975 and 1977 by the International Council for Educational Development. The British study is organized in three major parts: the structure and purpose of the British system of higher education; the government and management of the system; and the system's effectiveness.

The authors cogently locate planning within the context of the elaborate and subtle structure of British higher education. They note that central departments of education in England and Wales, Scotland, and Northern Ireland are engaged in "a complex set of relationships" with the universities and colleges "which ultimately add up to a planning function exercised nationally." The drift of power, especially since the mid-1960's, has been upward toward central bodies with the central government asserting "its rights to determine higher education policy in response to short-term economic planning administered by the central government departments within the Treasury network."

Of special note has been the changing role of the University Grant Committee (UGC) which from its creation in 1920 to the mid-1960's stood as a free, relatively-autonomous body between the Treasury and the universities. The UGC had provided the world with a model of how academics serving on a "buffer" commission could take the government's money without coming under regulation by the government's officials. In the last decade, however, the UGC has been formally placed under the Department of Education and Science (DES). The authors note that the UGC now "has to follow the planning framework established by the DES," and point to specific avenues along which the DES and the UGC between them have increasingly developed planning norms and regulations. The DES makes known national objectives and funding to the UGC. The UGC then must allocate funds to the universities, deciding "which institutions shall be preferred above another for the building up of a school, faculty, or department, and at what cost." Capital grants are crucial: "It is mainly through the control of capital grants that the Committee is able to influence the pattern of development of the university system as a whole."

Noting that there is some current political interest in Britain in bringing all institutions of higher education under a single management system, the authors express concern about the possible losses brought about by centralization. They note that an academic system operates on "the principle of preserving the initiatives of its prime academic elements, whether these be schools of study, course teams, or conventional subject departments." The structure is actually a loose network of small enterprises, each built around a marketable specialty. Therefore, they conclude, it makes more sense to develop a "craft cooperative" approach to accountability rather than to continue "with the uncomfortable business of trying to use the 'large corporation' analogue in a situation where the model, or the subject matter, or both, have to be seriously distorted to achieve anything at all."

3.0/77-2

Innovations and Innovation Processes in Higher Education, Barbro Berg and Bertil Östergren, 157 pp. (National Board of Universities and Colleges, Stockholm, Sweden).

This book is an English translation of the third of four reports on a study of educational planning conducted between 1974 and 1977 by the Office of the Chancellor of the Swedish Universities, an office reorganized and renamed in 1977 as the National Board of Universities and Colleges. The entire study was intended "as a clinical examination, oriented toward the charting of dysfunctions in governance, planning, and organization of higher education, with primary emphasis on two criteria, namely effectiveness and innovation capability." This particular report on innovation contains two special studies: a briefly-reviewed questionnaire study of educational changes and a group of seven case studies of processes of innovation, the latter comprising most of the book. The authors attempt to integrate their case studies in a theoretical framework by drawing particularly on the field theory of Kurt Lewin.

From the questionnaire study, the authors conclude that institutions were less likely to initiate innovations themselves when they had a long-standing dependency on superior authorities. They suggest an inverse relation between central control (and planning) and innovative capability in the operating units. From the case studies, the Swedish investigators argue against the usual preoccupation of innovation research with attempting to establish a general theory of innovation. Instead, they see explanatory models as dependent on the character of the innovation and that of the system. The main properties of the system that should be probed are membership structure, ideology, technology, organizational structure, and relations to the outside world. In this regard, they maintain, universities possess properties which distinguish them from other organizations. For example, the most important membership groups consist of teachers and researchers organized in subsystems according to disciplines, with competence and professional identity noted in the individual disciplines. This property affects ideology, organizational structure, and all other primary characteristics.

The authors also make a useful distinction between innovations which are consistent with the system—agreeing with its existing main properties—and those which are divergent from the system. They then conclude that whereas innovation researchers generally regard the innovation process as a diffusion or information process, they should more properly regard it as a political process, especially where innovations diverging from the system are concerned.

This excellent brief report is a good example of the important international contribution Swedish researchers are making to the understanding of higher education. Their findings and perspectives provide important insights into the complexities and unique features of systems of higher education and the limits of central planning. Much opinion in Sweden has recently swung in favor of decentralization, in part because centralism has become viewed as obstructing the diversity, flexibility, and innovative effectiveness which are becoming more and more necessary. If implemented, the Swedish effort in deliberate decentralization will be an experiment in planning for unplanned change.

3.0/77-3

Academic Power in Italy: Bureaucracy and Oligarchy in a National University System, Burton R. Clark, 205 pp. (University of Chicago Press, Illinois).

This study analyzes the way in which power is exercised in a national system organized according to a single institutional form, the national university, and under the control of a single bureau, the ministry of education. The first chapter describes the development of Italian universities over eight centuries, identifies the universities themselves and their faculties, and poses the problem of system-making. Chapters 2 and 3 set forth the relatively weak bureaucratic means of coordination that have developed, and the relatively strong oligarchical means of linkage and dominance, which have given senior professors great power nationally as well as locally. Chapter 4 reviews the Italians' marginally effective efforts since 1960 to reform their system. Chapter 5 reasserts the concept of the guild as a way of understanding the nature and strength of personal and collegial authority in academic systems in many countries.

The author emphasizes the high degree to which planning is shaped by the academic and political context in which it takes place. A centralized system ostensibly integrated by a national ministry might be assumed to have the capacity to form and implement plans. But this capacity is weak in Italy. The academic oligarchs do not want a separate class of academic planners; the executive is weak (in comparison to France or the United States, for example) and offers weak political support for planning; and the bureaucracy itself is relatively mediocre in initiative and ability. In this setting, planning is diffuse, located discreetly in diverse academic bodies or, in a few cases, done by central committees of academic oligarchs. Change comes about incrementally, and largely by political action rather than bureaucratic mandate or professional control. A centralized formal structure provides no assurance that planners will be able to ply their trade. In the author's view, the substructure of academic life, rooted in the way that universities and faculties are organized, undoubtedly has great momentum and influence in determining what is done in Italy as well as in many other countries.

3:0/77-4

The Politics of Higher Education in Brazil, Jerry Haar, 222 pp. (Praeger, New York).

The author of this study set out to "examine the formation of public policy regarding access to higher education in Brazil from 1964 to 1975, and [to] reveal why, how, and when policy change developed, and the individuals and groups involved." With a population of over 100 million and the fifth largest geographic size among the nations of the world, Brazil has intensely pursued modernization under an "authoritarian" regime and experienced such a rate of economic growth as to become the most powerful nation in South America. Brazil has tried to implement planning in higher education, particularly in the regulation of entry into institutions and the flow of graduates into the job market. An authoritarian regime is nominally in a strong position to plan policies, expeditiously, and to see that they are carried out.

Haar's central finding is that major planning has not been realized.

In search of appropriate theoretical understanding, he turned to "disjointed incrementalism," a theory worked out by Charles E. Lindblom, an American political economist, as the best way of explaining the Brazilian case. This theory holds that policies which are feasible politically are usually only incrementally or marginally different from existing policies and that the policy process is normally quite disjointed as various parties move in and out of the action. Haar applied "the eight stages of disjointed incrementalism" to his findings in the Brazilian structure and determined that seven of the eight stages applied, despite the great differences in governmental structure between Brazil and the United States. Choices even under a centralized military government "were made at the margin of the status quo: only incremental changes were planned and operationalized." In fact, due to the heavy weight of tradition in higher education, policy formation in this sector was "even less inclined to deviate from the status quo." The variety of policy alternatives that could be realistically considered was restricted considerably by the "nature, structure, vitality, and response capabilities" of the entrenched bureaucracy. The central difference between Brazil and the United States regarding the Lindblom theory is the relative integration of analysis and evaluation in Brazil compared to the way it is fragmented throughout American society. And the author concludes that "the rejection of disjointedness [in analysis and evaluation] is a precarious course of action. For the absence of independent sources to analyze, evaluate, and criticize issues, problems, and actions can often result in a homogenized and sterile assessment of policy. Pitfalls and dangers at times cannot be anticipated; and innovation, experimentation, and sound contingency planning cannot proceed."

3.0/77.5

"University Autonomy Versus Government Control: The Mexican Case," Daniel C. Levy, 565 pp. (Unpublished Ph.D. dissertation, University of North Carolina, Chapel Hill).

Recent literature on educational policy-making indicates a cross-national trend toward greater government control of universities. This study focuses on the degree of control in Mexico, a country normally studied by political scientists as a case of authoritarian rule. Levy, a political scientist, studies several forms of control. Economic control is measured according to such factors as the use of allocations as an instrument of control and the attempts of the government to impose tuition-loan schemes. Through an in-depth analysis of the financial bargaining processes as well as a variety of statistical tests, the author shows limited effects of government financing on university autonomy. Administrative control is considered in terms of such factors as the power to appoint the rector, the territorial integrity of the campus, and the degree of academic freedom.

The author finds overall that institutional autonomy is far stronger in Mexico than normally supposed, and not in keeping with the strong hierarchical control suggested by the broad label of authoritarianism. The government and university have established a modus vivendi based on mutual dependence. The government concentrates far more on satisfying demands than on imposing its wishes. Hence, in the author's judgment, a "reconciliation" model far better approximates Mexican government-university relations than an authoritarian model. Planning is affected accordingly, subject to the established powers of the universities, the rigidities and limited capabilities of governmental bureaus, and the overwhelming weight of continuing budgetary commitments of higher education. The political economy of Mexican higher education, Levy concludes, makes policy largely a response to demands, and confines planning to incremental, marginal decisions.

3:0/76

Ambiguity and Choice in Organizations, James G. March and Johan P. Olsen, 408 pp. (Universitetsforlaget, Bergen, Norway).

Through seventeen chapters, the authors interweave lively and penetrating theoretical discussion with case-study reports by ten authors including themselves on decision-making in Norwegian, Danish, and American higher education. The book is devoted largely to decision-making within institutions, although two case studies concentrate on national-system processes. The theoretical ideas that dominate the book are potentially useful both at system and institutional levels of organization.

One Norwegian case study offers a fascinating analysis of how a national system came to decide on the location of the country's third medical school. The researcher shows how a shift in the country's general values, toward emphasis on regional development, changed bureaucratic and professional arguments for locating the medical school in one city instead of another. There was a complex connection between "rational acts" by participants and the final outcome. The author notes that "an important precondition for applying the garbage-can model [of James March] to the analysis of more encompassing social structures . . . seems to be that the different interests or power groups involved are of roughly comparable strength." A powerful chief or group can clean up a garbage-can. But the typical situation in higher education is that power is diffused among many groups.

The book primarily contributes theoretical arguments that draw decision-making theory away from the neat logic of traditional models and toward complicated concepts that are more appropriate for higher education, where, in the language of March and his associates, organizations "deal with ambiguity—goals that are unclear, technologies that are imperfectly understood, histories that are difficult to interpret, and participants who wander in and out." Although itself often unclear, the book presents a powerful revisionist argument that is currently under debate by decision-making theorists. It is a valuable theoretical statement for planners and administrators in higher education.

3.0/70

Bureaucracy and National Planning: A Sociological Case Study in Mexico, Guy Benveniste, 141 pp. (Praeger, New York).

Guy Benveniste, now Professor of Education at the University of California at Berkeley, has had extensive planning experience in Mexico and other countries and has written extensively on economic development, planning, and the emerging role of the expert advisor. In this case study, he explores the national planning of education in Mexico while attempting tentative answers to such broad questions as: "Where, when and how do planners accrue the power necessary for the implementation of the plans they elaborate? What are the limits on this power and, therefore, what are the limitations of any planning exercise?" He considers all levels of education, while focusing on the processes rather than the contents of planning.

The author concludes that there is in Mexico and elsewhere a wide discrepancy between the prevailing theoretical concepts of planning and the processes which actually take place. The process is inherently political, involving the accumulation and use of power. Failing to recognize this, the normal picture of impartial, rational action on the part of planners in Mexico was inappropriate: "the conventional ideology of planning was clearly dysfunctional to the ongoing process. The fact that planners were not expected to be organizing coalitions of implementers made their own search for a formula that had a chance of being implemented that much more difficult." Successful planning is heavily dependent on the "exchanges" in which planners participate, i.e., those transactions necessary to build consensus and elicit the cooperation of some of the future implementers. Such exchanges are commonly done among relatively small groups of experts and leaders, hence the process involved is not in itself a particularly democratic one. The intended beneficiaries are commonly left out, and often, upon perceiving this fact, become deeply concerned that they also participate in a process which affects their lives. Benveniste interprets both the French and Mexican student revolts of 1968, bitter protests in each country, as in part a reaction of these beneficiaries to planning processes which did not allow them much of a voice.

Thus, his final conclusion: "If we want planning to be a tool of social transformation that limits the need for violence and the erosion of existing institutions, then . . . we need to perceive the political weight of the potential beneficiaries whose lives are to be affected by planning, and we need to invite these groups into the planning process."

3:0/66

Planning for Education in Pakistan: A Personal Case Study, Adam Curle, 208 (Harvard University Press, Cambridge, Mass).

As described by Philip H. Coombs in his foreword, the author of this study "gives us what might be described as a personally conducted psychic tour of a developing country by a technical assistance expert." Adam Curle "both emphasizes the crucial role of expatriate advisers and cuts them down to size." His purpose in the book is to shed light on the position and difficulties of foreign advisers while discussing the problems of educational planning in Pakistan. He begins with a chapter on the "dubious role" of the adviser, then turns to four chapters on educational planning in Pakistan, and concludes with four brief chapters that take up the role of education in development and offer personal reflections on his planning experiences.

The result is an uniquely fascinating account of the many difficulties of the role of the educational planner in the context of national planning in a developing society. One of the extremely unsatisfactory aspects of being a short-term adviser, Curle comments, is that: "It is much easier to construct a plan than to implement one. It is not usually difficult in a country as poor as Pakistan to realize what needs to be done. It is incredibly hard, on the other hand, to do it." Curle was one of the first experts in any field of planning to stress, in this mid-1960's book, that "the planner is not just someone who sits spinning out plans for others to put into operation. He has, or should have, a continuing concern for their implementation." And "the things which make a plan either easy or hard to implement are functions of administrative structure, of the conventions and procedures of the field involved, of the current political situation, of the personalities of men in key positions. These are matters which can only be learned the hard way, by experience."

3:0/59

British Universities and the State, Robert O. Berdahl, 229 pp. (University of California Press, Berkeley), Reprint Edition, 1977 (Arno Press, New York).

Robert O. Berdahl's 1959 book on British higher education, reprinted in 1977, has been widely recognized as the classic study of the

British University Grants Committee (UGC). The volume remains highly relevant to the problem of relations between the universities and government in other countries as well as Great Britain. Part one of the study traces in five chapters the historical evolution of university-state relations in Britain, from the beginnings of Oxford and Cambridge to the years following World War II. Particularly interesting are the conditions of university weakness after World War I that helped lead to the establishment of the UGC, the gradual transition to an overall state policy for universities during the next twenty years (1919-1939), and the emergence of "positive state leadership" in the period following World War II. Part two, organized topically, is devoted to constitutional, administrative, and political aspects of the state's dealings with the universities, in order to determine whether university autonomy has been affected by state actions.

Berdahl concludes that at the end of the 1950's university autonomy had survived remarkably well, due largely to the UGC. Given the universities' relative poverty and the state's need for vital resources, "no other system could have done what the present system has accomplished—namely, integrated university operations into the framework of national planning without damaging the essential attributes of university autonomy." The author thinks that at least the general principles of the UGC-style linkage between state and university are exportable, e.g., that "the execution of the subsidized policies should be entirely free from the close state supervision which normally accompanies grants of public funds." The UGC model represents national planning by responsible academic notables.

At the time this book was published, the UGC still occupied a unique place in British government as a relatively autonomous unit that with little scrutiny received funds directly from the Treasury Department. Berdahl noted three conditions that limited the demands of the state for accountability. The first was a high degree of trust and informality made possible by a "common outlook of government and university leaders": they had gone to Oxford and Cambridge together. The second was state financial stability: there seemed to be enough money to go around. The third was the absence of partisan controversy about the universities: political parties, interest groups, and the general public were not very interested. But these conditions began to change in the mid-1960's, as financing tightened, controversy developed, and trust and informality came under severe strain. State control has grown considerably. Berdahl's study clearly foretold this possibility. In addition to specifying the three above conditions, he noted the possibility of growing rigidity if all universities are heavily dependent on a single source, and observed that the UGC had "acquired a formidable *potentiality* for power which could be abused in less happy times."

4

Demography

Stephen P. Dresch

The evolving demographic environment has profound and critical impact on higher education and thus on the design of education policy and planning. First, demographic phenomena directly and indirectly determine and influence *social demands* on higher education. Second, the *structure and performance* of colleges and universities reflect to a high degree responses of the education system to these social demands, responses which thus are indirectly conditioned by the demographic environment.

Changes in the size and composition of population directly influence social demands on and for higher education. Perhaps even more importantly, such changes in demographic structure may themselves induce alterations in the behavior patterns of individuals and groups. These indirect effects on higher education must be traced through those other social institutions (e.g., the family and the labor market), to learn how higher education may more effectively interact with these sectors.

Social Demand. Most analyses of demographic influences on social demand have emphasized direct effects, e.g., the effect of changing age cohort size on enrollment. Indirect effects, as those exerted through the consequences of declining fertility rates on female labor force participation and educational behavior, or through the impact of declining birth rates on demands for pediatricians and teachers, have only recently begun to be examined in any detail. The selections in this area necessarily overlap in substance with those included under other topics (e.g., Economics, Work and Education). However, the fundamental principle of selection differs. Primary emphasis for inclusion in this section is on the transmission of demographic influences. Thus, for example, general studies of the determinants of demands for different educational classes of labor are not included, but studies focusing specifically on the consequences of demographic change for labor market demands for the highly educated are included.

Social demands on higher education are broader than simply their effects on enrollments. A brief section on demographic aspects of nonenrollment demands (e.g., research, service provision), is also included.

Sectoral and Institutional Structure and Performance. Demographic influence on sectoral and institutional structure and performance is multifaceted and pervasive. Current institutional configurations and practices have evolved over more than a century of virtually uninterrupted growth, growth which was, to a significant extent, demographically driven. The consequences of reduced and/or "unsteady" growth are thus relatively unknown. The entries selected on sectoral and institutional structure and performance emphasize the changing internal demography of faculties (the most growth-dependent facet of the structure and performance issue) and the implications of the demographic environment for sectoral efficiency and planning.

Some issues span the domains of both social demand and sectoral and institutional structure and performance. This is true, for example, of studies of the consequences of the changing demographic composition of enrollment for different classes of institutions. Rather than being included in a third section, these intersecting studies are classified according to their predominant thrust.

Unfortunately, no general or comprehensive treatments of the subject of demography and higher education appear to exist.

TOPIC ORGANIZATION

- 4: Demography
  - 1.0 Social Demand
    - 1.1 General
    - 1.2 Population Size, Composition, Growth and Migration
    - 1.3 Participation Rates and Enrollment
  - 2.0 Sectoral and Institutional Structure and Performance
    - 2.1 Demographic Structure of Faculties
    - 2.2 Sectoral Efficiency and Planning

1.0 SOCIAL DEMAND

1.1 General

4:1.1/76

The Demographic Context of Educational Policy Planning, Peter A. Morrison, 32 pp. (Aspen Institute for Humanistic Studies, New York).

This study provides a comprehensive and comprehensible review, assessing (1) current fertility patterns and trends, and (2) implications of changing fertility for the age structure of the U.S. population. The implications of trends in female labor force participation, the "sibling squeeze," migration and metropolitan contraction, and racial separation are also reviewed.

1.2 Population Size, Composition, Growth and Migration

4:1.2/A

Current Population Reports, U.S. Bureau of the Census (U.S. Government Printing Office, Washington, D.C.).

The multifaceted series of the *Current Population Reports* constitutes an indispensable source of current and historical information on, and projections of, the size, composition, geographic distribution, characteristics, and behavior of the U.S. population. These reports are based principally on the Current Population Survey (CPS), a monthly survey initiated in 1940 and currently consisting of approximately 55,000 households. The substantive content of the CPS varies from month to month but is generally constant across years, thus providing for consistency in data over time. The introductory text of each report summarizes the data and explains technical terms and concepts to the layman.

The important series for purposes of educational planning are:

Series P-20. Population Characteristics: This series covers a wide range of topics—fertility, school enrollment and educational attainment, and more general socioeconomic profiles of the population.

Series P-25. Population Estimates and Projections: In addition to providing intercensal estimates of the population at the national, regional, State and county levels, this series reports on domestic migration patterns as revealed by the decennial censuses and presents population projections.

Series P-60. Consumer Income: Detailed information on household, family and individual income and earnings, in relation to other socioeconomic and demographic characteristics, is provided at the national and regional levels.

Particularly important reports within these series which are relevant to higher education are abstracted below. An asterisk indicates a title which usually appears annually.

Series P-20. Population Characteristics

*No. 321, "School Enrollment—Social and Economic Characteristics of Students: October 1977," (issued March 1978). This series of annual reports (of which only a summary Advance Report is available for 1977) provides detailed information on the school and college enrollment status of the population between the ages of 3 and 34 years. Data are reported by age, sex, race and ethnicity (white, black, Spanish, and Mexican), and for persons not enrolled, by high school completion status. Further breakdowns are provided by metropolis (central, city/non-central, city/non-metropolitan residence), by level of schooling (grade or year of college, public/private institutional control, full-/part-time attendance), prior year attendance status and educational attainment, marital status, educational attainment of family head, and family income. Because of sample-size constraints, geographic disaggregation, when provided, is limited to the 4-region level. In addition to detailed data for the current year, summary statistics for the preceding 10 years are also included.

*No. 299, "College Plans of High School Seniors: October 1975," (issued November 1976). College plans of high school seniors are reported by age, sex, race and ethnicity, region, metropolitan/non-metropolitan residence, college attendance status of other family members, family income, and educational attainment and occupation of family head. The most serious deficiency of these data, apart from rather unfortunate delays in their release, is that no attempt has been made to assess the degree to which plans made in October of the senior year of high school predict actual college entry. This analysis would have been possible, in principle, given the design of the CPS (as discussed below each family is in the

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sample for four consecutive months, is removed for eight months and is then included for another four months).

*No. 314, "Educational Attainment in the United States: March 1977 and 1976," (issued December 1977). Distributions over years of school completed by persons 14 years old and over are reported by age, sex, race and ethnicity, marital status and relationship to household head, and educational attainment of spouse. In addition to national data, more aggregative information is provided by region, the 15 largest States, and Standard Metropolitan Statistical Areas.

*No. 324, "Population Profile of the United States: 1977," (issued April 1978). A summary presentation of information provided in more detail in other issues of the current population reports or compiled from other sources, this report provides a general picture of the socioeconomic and demographic characteristics of the population, with sections covering (1) population growth, (2) social characteristics, (3) population distribution, (4) employment, (5) income, and (6) race and Spanish origin. This source is useful for a broad assessment of population changes relevant to college enrollment.

No. 315, "Trends in Childspacing: June 1975," (issued February 1978). This report provides a detailed assessment of changes in child spacing over time and in relation to the birth and marriage patterns of women. This provides important information in the context of findings relating college attendance to order of birth and ages of siblings.

No. 320, "Geographical Mobility: March 1975 to March 1977," (issued February 1978). Interregional and metropolitan migration rates are provided by socioeconomic and demographic characteristics. Related reports covering different periods include No. 305 (1975-76) and No. 285 (1970-75).

Series P-25. Population Estimates and Projections

No. 723, "State and Local Agencies Preparing Population Estimates and Projections: Survey of 1975-76," (issued June 1978). Because detailed intercensal population estimates and projections produced by the Bureau of the Census are at the national or regional level, State, local, and regional planning agencies must in general be relied upon for more localized data. This report identifies 474 agencies which make projections. Each of these agencies is identified, and the area of coverage and methods employed are indicated. These methods are described in detail in No. 640, described below.

No. 640, "Estimates of the Population of States with Components of Change: 1970 to 1975," (issued November 1976). Using estimates of the population in 1970 and 1975 and the March 1977 Current Population Survey, this report provides detailed information on household socioeconomic characteristics and income. Date are presented at the national and regional levels.

Series P-60. Consumer Income

Nos. 110-113, "Money Income and Poverty Status in 1975 of Families and Persons in the United States and the _____ Region, by Divisions and States (Spring 1976 Survey of Income and Education)," (No. 110, Northeast, March 1978; No. 111, North Central, April 1978; No. 112, South, June 1978; No. 113, West, July 1978). This is the most detailed source of intercensal information available on the incomes of families and individuals at the State level. These data are derived from a special Survey of Income and Education conducted in the late Spring of 1976, with coverage of approximately 150,000 households. Data are otherwise comparable to those available from the annual Current Population Survey.

No. 92, "Annual Mean Income, Lifetime Income, and Educational Attainment of Men in the United States, for Selected Years, 1956 to 1972," (issued March 1974). Income by age and lifetime income under alternative assumptions concerning discount rates and rates of productivity increase are presented for seven educational attainment groups (from less than eight years of elementary school through five or more years of college). Estimates are made for all males and for full-time, full-year workers.

Series P-23. Special Studies

No. 66, "Characteristics of American Children and Youth: 1976," (issued January 1978). A special report drawing on both Census Bureau and other data, this volume provides a comprehensive portrait of persons under the age of 24, with historical data and projections. Chapters discuss population growth and distribution, education, marital status and living arrangements, fertility, mortality and health, labor force and employment status, income and poverty status, voting, and crime (victims and offenders).

1.3 Participation Rates and Enrollment

The following two volumes provide broad statistical coverage of many aspects of higher education. They are accordingly numbered and annotated under Topic 15: Planning–Issues, Theory, Reference (See: 15:4.1/A-2 and 15:4.1/A-5). Certain demographic components are described below.

Digest of Education Statistics, National Center for Education Statistics (U.S. Government Printing Office, Washington, D.C.).

This is an annual volume presenting detailed statistics on enrollment, degrees, institutions, faculty and finances.

Projections of Education Statistics, National Center for Education Statistics (U.S. Government Printing Office, Washington, D.C.).

An annual series, each edition projects enrollment, degrees, faculty, expenditures and student charges 10 years into the future. Projections are "trend demographic," e.g., given independent (Census) projections of a particular population, educational participation rates are projected according to past trends, resulting in enrollment projections.

2.0 SECTORAL AND INSTITUTIONAL STRUCTURE AND PERFORMANCE

2.1 Demographic Structure of Faculties

Allan M. Cartter's definitive work described below is a primary reference for a number of topics within this bibliography, viz., Faculty, Work and Education, and Demography. The volume is fully annotated and numbered under Topic 22: Work and Education (22.4.0/76). Portions of the work discussed here deal with the demographic characteristics of faculty.

Ph.D.'s and the Academic Labor Market, Allan M. Cartter, 260 pp., (McGraw-Hill Book Co., New York).

The central insight of Cartter's analysis of the academic labor market is that the demand for faculty is a derived demand for a capital good, dependent on enrollment, and that even a decline in the rate of enrollment growth will imply an absolute decline in the demand for new faculty. Thus, his 1964 anticipation of a Ph.D. surplus rested not on a decline in the size of the college-age cohort but rather on a substantial decline in its rate of growth in the late 1960's. The more recent emergence of an absolute decline in births, then, implies a more severe and more prolonged deterioration in the academic labor market.

Cartter develops a series of ever more refined models of (1) the demand for new faculty, taking into account, for instance, induced changes in graduate enrollment, changes in the rate of gross inflow (outflow) of senior faculty from (to) nonacademic employment, and changes in mortality and retirement rates as the faculty age distribution shifts over time, and (2) the effects of labor market conditions on graduate school entry and degree completion rates. These models were developed in a manner which should be highly comprehensible to the non-economist.

Cartter's general conclusion is fundamentally pessimistic: junior faculty openings will be very low, in some years negative, throughout the 1980's, and although graduate entry and persistence rates will decline, faculty openings may absorb as few as 3 percent of new doctorates in the 1981-85 period. He further concludes that graduate enrollments may decline by more than 20 percent between the late 1970's and mid-1980's, and salaries in academe can be anticipated to decline significantly relative to wages and salaries in other sectors.

2.2 Sectoral Efficiency and Planning

4:2.2/75

"Numerical Models for Faculty Planning," David S. P. Hopkins and Arthur Bienenstock, New Directions for Institutional Research No. 6, pp. 23-47.

This paper develops a closed model of the demographic structure of faculty, explicitly identifying the effects of institutional policies relating to promotion/retention of junior faculty and the retirement of senior faculty. The effects of alternative policies in the face of a stationary total faculty size are assessed, focusing on the proportion of the faculty that is tenured and the proportion of faculty over age 45. Benchmark data on the Stanford University faculty was used in the analysis.

5

Economics

Stephen A. Hoenack

The economics of higher education is concerned with the efficient use of resources and with the equity of financing and student access. Economists address issues of efficiency and equity through analysis of two sets of behavioral questions: 1) how students, faculty, institutions and public and private funders are influenced by market prices and other incentives; and 2) what is the economic impact of higher education on students and the corresponding monetary and non-monetary returns to higher education as an investment.

Much of the economic analysis of higher education can be useful in planning because economists emphasize the effects of variables controlled by policy on the behavior studied. Economic analysis also can provide information about the relative desirability of exercising control over these variables at the Federal, State, and less centralized levels of responsibility, e.g., institutions, students, donors, faculty, and purchasers of research.

In this bibliography, literature dealing with the economics of higher education has been placed in five categories. Three deal with the effects of incentives—on student behavior, faculty and institutions, and higher education's funders. The fourth and fifth categories deal with the economic impacts of higher education on students and the incidence of benefits and costs of educational subsidies.

Existing research has studied some topics in more detail than others, and the policy significance of relatively neglected topics can be high. For example, while a substantial amount of work has been done on the response of enrollments to prices (tuition), much less research has been performed on the effects of intra-institutional incentives, such as on faculty behavior. This unevenness of research attention may be simply because data are more readily available for some topics than others, a correctable situation. Therefore, topic importance as well as the quantity of research has been considered in selecting entries. Another criterion used was the quality of methodology employed; consequently, where methodology is critical, some selected entries may deal with elementary and secondary education as well as higher education. In the cases in which there is a large body of existing studies (e.g., demand for higher education), useful survey articles are included. References to additional literature are also cited within the appropriate annotations. In several cases, a single reference encompasses more than one of the defined categories. They are entered in the category of primary importance and other categories covered are noted at the end of the annotation.

Incentives and Student Behavior. Student choices among institutions and careers are influenced by the prices of educational services and by the wages and working conditions determined in labor markets. A significant amount of research has been done in this area, although many important questions remain unanswered. The entries within this subtopic are divided according to their attention to the effects of prices of educational services, or on the effects of labor market variables on student behavior. (See also Topic 22: Work and Education, Subtopic 8).

Incentives and Faculty and Institutions. The clienteles that institutions choose and the workloads that faculties take on are influenced by at least three kinds of incentives: incentives within institutions, (whether intended or not); incentives resulting from competition among institutions for students, faculty, and research support; and incentives determined by the funding policies of public and private funders. This subtopic reviews the scant literature in this relatively neglected area of the economics of higher education. Interactions between institutions and students, measures of existing incentives on faculty, and issues in altering incentives on faculty and institutions are considered in separate subtopics.

Incentives and Public and Private Funders. Of particular interest in this also relatively neglected area is the analysis of how public and private (donor, student and institutional) funders influence each others' support efforts. Mutual determination of public and private funding and donor behavior in relation to tax policy are described in separate subtopics.

Economic Impacts of Higher Education on Students. Many studies have attempted to measure the economic impact of higher education on students, including aggregative returns and more specific measures such as differential impacts of attendance at alternative kinds of institutions. (See also Topic 22: Work and Education, Subtopic 3). However, a number of theoretical and statistical problems made the causal interpretation of many of these measures ambiguous. Fortunately, there have been some recent methodological advances in this area, including the use of data on twins to control for influences of genetics and family background when estimating effects of education on earnings.

Incidence of Benefits and Costs of Educational Subsidies. This subtopic, closely related to the one on economic impacts, includes both the pioneering studies which developed the measures used, and more recent theoretical work designed to evaluate the inter-generational benefits and costs of subsidies.

A number of the studies in this bibliography may have substantial value to policymakers and planners who are willing to become sufficiently informed to make their own conceptual and methodological judgments. Like most parts of economics, the economics of higher education is in a state of active methodological change. For this reason, the usefulness of studies of the economics of higher education depends on the policymaker's understanding of the underlying conceptual problems and technical issues.

TOPIC ORGANIZATION

5: Economics

1.0 Incentives and Student Behavior
    1.1 Effects of Prices of Educational Services
    1.2 Effects of Labor Market Variables

2.0 Incentives and Faculty and Institutions
    2.1 Interactions Between Institutions and Students
    2.2 Measures of Existing Incentives on Faculty
    2.3 Issues in Altering Incentives on Faculty and Institutions

3.0 Incentives and Public and Private Funders
    3.1 Interactions Between Public and Private Funding
    3.2 Tax Policy and Donor Behavior

4.0 Economic Impact of Higher Education on Students

5.0 Incidence of Benefits and Costs of Educational Subsidies

1.0 INCENTIVES AND STUDENT BEHAVIOR

1.1 Effects of Prices of Educational Services

5:1.1/77

Demand for Higher Education in the United States: A Critical Review of the Empirical Literature, David J. Weinschrott, Report R-2195-LE, (Rand Corporation, Santa Monica, Calif.).

This report is a thoughtful methodological evaluation of existing studies on the demand for higher education in the United States. The author also provides a discussion of the policy issues that demand studies have addressed. The evaluated studies are those of Barnes, et al.; Bishop, Corrazini, et al.; Feldman and Hoenack; Hoenack; Hoenack and Weiler; Kohn; Manski and Mundel; and Radner and Miller. The author devotes the initial section of his report to the explanation and criteria for his evaluation of each study. The criteria include: (1) Treatment of higher education as a consumption item or investment, in which theoretical justification of variables included in enrollment demand models is evaluated; (2) Selection of the "Choice Set," which evaluates the appropriateness of each study's specification of the range of collegiate choices by students and clarifies assumptions made about the nature of student choice; (3) Measurement of financial aid offers, which evaluates each study's inclusion of data for all prices and financial aid faced by sampled students; (4) Identification of demand/supply relationships, which evaluates how each study dealt with the possibility that the causality underlying estimated relationships between tuition and enrollments are in part institutional supply behavior rather than enrollment demand behavior alone; and (5) Use of "stratified estimates," which explores each study's provision of separate estimates of the effects of the amount of tuition or of financial aid according to the academic ability or income status of the student.

A separate section of the report is devoted to an evaluation of each demand study according to these five criteria. The author concludes that future studies should improve on existing studies in the representation of the "choice set" of educational options and in the measurement of financial aid offers. The author finds that existing studies use samples in which institutional supply behavior is unlikely to be confused with enrollment demand. However, he argues that in the face of projected decreases in enrollment, future research should explicitly analyze institutional supply behavior. While existing studies have analyzed differential demand behavior across ability and demand classes, the author states that future studies should analyze the differential demand behavior of men and women.

Other surveys of the literature on demand for higher education are Chapter 2 in Roy Radner and Leonard S. Miller, *Demand and Supply in U.S. Higher Education*, McGraw-Hill Book Company, New York: (5:1.1/75), which also emphasizes methodological issues; and Gregory A. Jackson and George B. Weathersby, "Individual Demand for Higher Education: A Review and Analysis of Recent Empirical Studies," *Journal of Higher Education*, Vol. 46, No. 6, pp. 623-652, which compares the results of different studies.

5:1.1/75

Demand and Supply in U.S. Higher Education, Roy Radner and Leonard S. Miller, 468 pp. (McGraw-Hill Book Co., New York).

This book provides a number of valuable studies useful to both higher education researchers and planners. The initial section of the book deals with enrollment demand. Chapter 2 is devoted to evaluation of a number of existing enrollment demand studies, and along with the Weinschrott survey, is probably the best such evaluation available. Chapters 3-5 contain a relatively complete presentation of Radner and Miller's well known econometric studies of enrollment demand. While the presentation is comprehensive and discusses a number of the technical issues and data problems the authors faced, different concepts are carefully explained and the discussion is largely accessible to the nontechnical reader. The presentation includes two topics not dealt with in other demand studies: the use of models to provide enrollment forecasts (Chapter 4); and the presentation of differences in results under alternative specifications of demand (Chapter 5).

The remainder of the book deals with supply issues: the supply of educated manpower and the supply of educational services broadly defined to include the behavior of institutions in enrolling students and in the hiring of faculty. Planning issues are emphasized. Chapters 6 and 7 present an important study of faculty-student ratios in U.S. higher education. A wealth of descriptive material is presented, including time series of faculty-student ratios by type of institution for 1953-1967. Also presented are 1966 values of ratios of graduate enrollments to faculty plotted against undergraduate enrollments to faculty for numerous identified individual institutions. The authors tested the alternative hypotheses for several types of institutions that increased faculty hiring either accompanies, or substitutes for, increases in faculty salaries and in quality of faculty as measured by Ph.D.'s. It is unclear exactly what the results reflect—preferences of institutional faculty, economies of scale, or strength of bargaining relationships with clienteles (including State institutions' relationships with their legislatures). Nevertheless, this is one of the first empirical attempts to deal with institutional resource allocation behavior.

Chapter 8 gives a thorough presentation of data on the numbers of Americans holding various types of degrees. Chapter 9 provides alternatives to Allan Cartter's forecasts of the academic job market for Ph.D.'s and the sensitivity of these forecasts to each of the major assumptions underlying them is described. Chapters 10-12 develop a dynamic input-output model for use in educational planning, and provide as policy applications of the model, calculations of the resource requirements for a universal 2-year college program and for a compensatory primary and secondary program are presented. The calculations are presented under alternative assumptions about the speed with which plans are implemented. Because of differences between the nature of faculty demanded under these programs and the capacity of existing graduate programs it is shown that these programs would not substantially alleviate the problems of excess capacity in higher education in the 1980's.

1.2 Effects of Labor Market Variables

5:1.2/76

The Over-Educated American, Richard B. Freeman, 218 pp. (Academic Press, New York).

This book is likely to be useful to the higher education planner and administrator for two purposes. First, the author describes much of his own extensive research and that of others on the functioning of labor markets for college-educated manpower. Secondly, he describes forecasts of the state of the college job market to 1990, based on a behavioral model. The book is well-written and readily accessible to the nontechnical reader.

The book starts with an overview of key statistics, such as real starting salaries of various categories of college-educated manpower, ratios of college-to-non-college incomes, and fractions of the labor force represented by college graduates. He provides evidence that the labor market for college-educated relative to that for non-college-educated manpower has declined in recent years. Chapter 2 provides some data on the responses of students and colleges and universities to the decline. The analytical approach to a model of the labor market is briefly outlined and used to interpret the aggregative descriptive data in Chapter 3. The forecasts are also briefly presented.

Subsequent chapters present information on the labor markets for elementary and secondary teachers, college faculty, research scientists, engineers, physicians, lawyers, and MBA's. This material is of interest, both in itself and as a useful source of available research on each category of labor. The author also provides chapters on the labor markets for college-educated blacks and women. The book is concluded with a speculative discussion on future problems that colleges and universities will face.

The author's forecasting model, briefly described in an Appendix, has equations for (1) enrollment of freshman males as a function of population, college and non-college salaries, and lagged values of freshman enrollments; (2) B.A. graduates as a function of lagged freshmen; and (3) the determination of college salaries as a function of lagged B.A.'s, an index of demand, non-college salaries and lagged college salaries. The equation for the determination of college salaries is described in more detail in the author's article, "Overinvestment in College Training?," *Journal of Human Resources,* Volume 10, No. 3 (1975) pp. 287-311. An important characteristic of this model is that the flow of new college graduates adjusts to equilibriate the labor market for all college graduates. This contrasts with the model provided by Stephen P. Dresch ["Demography, Technology, and Higher Education: Toward a Formal Model of Educational Adaptation," *Journal of Political Economy,* Volume 83, No. 3 (1975) pp. 535-569 (5:4.0/75)], in which equilibrium in the stock market results from adjustments of the stock demands and supplies for total educated and uneducated manpower.

5:1.2/71

The Market for College-Trained Manpower: A Study in the Economics of Career Choice, Richard B. Freeman, 264 pp. (Harvard University Press, Cambridge, Mass.).

This book is the single most valuable source on the economics of career choice. The author develops two alternative models of labor markets

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for college-trained manpower, the "cobweb" and "incomplete adjustment" models. Both models imply that at the margin a certain number of students make current career-related enrollment decisions based on current salaries. In the cobweb model, enrollments and subsequent qualified new manpower in a field fully adjust to changes in current salaries at the beginning of a given time period. However, subsequent new manpower in the field is equal to the amount demanded at the end of the time period, leading to an oscillation of wages and enrollments over time. In the "incomplete adjustment" model, enrollments only partially adjust within the defined time period, resulting in wages that encourage further adjustment in the same direction in the next time period.

The author finds strong support for the applicability of the cobweb model to the Bachelor of Science in Engineering, the field of accounting and the MBA. The incomplete adjustment model is found to have strong support in application to the market for doctorates, chemists, and mathematicians. The empirical support for both models is strong evidence in favor of the hypothesis that education is an investment. Professor Theodore W. Schultz has also argued that these findings support the hypothesis that educated individuals tend to respond more readily than uneducated individuals to the changes in opportunities represented by disequilibria in markets. Subsequently the author applied these models to other professions in a number of excellent articles, including: "Labor Market Adjustments in Psychology," *American Psychologist*, Volume 27, No. 5 (1972) pp. 384-93; "Legal Cobwebs: The Changing Market for Lawyers," *Review of Economics and Statistics*, Volume 57, No. 2 (1975) pp. 171-9; "Supply and Salary Adjustments to the Changing Science Manpower Market: Physics, 1948-1973," *American Economic Review*, Volume 65, No. 1 (1975) pp. 27-39.

The book contains a number of additional related studies. An analysis of effects of stipends and starting wages on the amount of time and competition involved in Ph.D. programs is presented. Also included is a valuable analysis of institutional behavior in hiring faculty, that includes a structural model of the labor market for faculty. A survey of student attitudes and expectations about career choice is described and interpreted. The author also discusses the implications his research has for public policy.

See also: 22:4 0/74-2 Higher Education and the Labor Market, Margaret S. Gordon, ed., 630 pp. (McGraw-Hill Book Co., New York).

2.0 INCENTIVES AND FACULTY AND INSTITUTIONS

2.1 Interactions Between Institutions and Students

5:2.1/77

An Econometric Model of the U.S. Market for Higher Education, John M. Abowd, 134 pp. (Industrial Relations Section, Princeton University, Princeton, N.J., Working Paper #102).

An important characteristic of higher education is the wide diversity of colleges and universities. Previous researchers have not modeled the higher education market in such a way that the diversity of higher education institutions is behaviorally determined. Abowd accomplishes this in his pathbreaking study by applying a theoretical model of implicit markets to higher education as developed by Sherwin Rosen ["Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition," *Journal of Political Economy*, 82 (January/February 1974) pp. 34-55]. According to Abowd, "Competition at each point on the quality spectrum determines the price as a function of quality and the distribution of (buyers and sellers) along the quality choices."

Abowd specified an enrollment demand distribution as the number of enrollees who demand schooling at quality levels "less than or equal to a given level for each positive level of quality." The enrollment supply distribution gives the number of enrollment places supplied by quality levels less than or equal to a given quality level, he maintains. Both relationships are functionally related to the market relationship between tuition and quality, which "induces the enrollment demand distribution and the enrollment supply distribution to be coincident along the quality spectrum."

In Abowd's model, institutions' optimal enrollment and quality decisions determine the supply distributions. When there is excess demand in a quality interval, "equilibrium in the quality differentiated market is determined by competition among students for enrollment places. Alternatively, when a quality interval is characterized by excess supply, competition occurs among the schools for students. This scheme is modified to permit some rationing among the very high quality public and private schools."

The author's theoretical development of his model provides advances both in the theory of enrollment demand and of institutional supply behavior. His theory does not necessarily require his perhaps implausible assumptions that institutional objective functions emanate from trustees rather than faculty; alternative objective functions giving more weight to faculty research and faculty benefits could be used. His model is estimated using cross-section data from eight years of the U.S. Office of Education publications, *Opening Fall Enrollment and Higher Education General Information Survey*. These data permitted a measure of the quality of an institution's undergraduate offerings which increases with revenues devoted to instructions. Also, if other activities (e.g., research) increase, the measure of quality increases. The measure decreases if undergraduate enrollment increases. Nevertheless, the quality measure, a variant on instructional expenditures per student, is not implied by the Rosen Model.

See William S. Reece, "A Theoretical Framework for Educational Output Measurement" (unpublished manuscript) for a measure of quality which is implied by the Rosen Model.

The author's empirical results include histograms for tuition, enrollment and quality, and estimates of market relationships between tuition and quality which were used in interpretation of the equilibrium of the higher education market. His empirical results on institutional supply are more useful than his empirical results on enrollment demand because of the lack of information on individual students in his data base. Differential effects on institutional behavior of lump sum and enrollment related subsidies also are shown.

2.2 Measures of Existing Incentives on Faculty

5:2.2/76

Publication, Teaching, and the Academic Reward Structure, Howard P. Tuckman, 122 pp. (Lexington Books, Lexington, Mass.).

This book is probably the best source from which to learn the state of the art in the estimation of earnings functions for college and university faculty. It is exceptionally well-written and accessible to nontechnical readers. Earnings functions for faculty usually relate levels of faculty salaries to variables such as publications, education and experience. Because these functions can be estimated according to the faculty member's sex and race, there is an interest in using these to test hypotheses about discrimination. Unfortunately, this is not a valid use of faculty earnings functions for two reasons. First, it is impossible to control for all of the important causal influences on faculty earnings, including the quality of the faculty member's work and the faculty member's preferences. Secondly, when coefficients in a faculty earnings function combine supply and demand influences, the separate influences cannot be determined.

Chapter 2 is devoted to a discussion of existing research that clearly points out the alternative approaches now taken to the specification and estimation of faculty earnings functions. Chapter 3 provides a theory which underlies the author's estimates cited in later chapters. The discussion includes a figure depicting the academic labor market. There is, however, insufficient discussion of the implications for estimation of many important aspects of institutional demand and individual faculty supply behavior. In particular, how would one control for a faculty member's experience, options and quality of research and publications? In regard to institutional behavior, how would one control for political behavior in the determination of salaries when colleagues evaluate one another? How would one control separately for demand and supply influences?

Chapter 4 is devoted to issues related to using faculty earnings functions to deal with possible discrimination. The author explains a number of possible misuses of earnings functions in this context. However, a number of problems are not discussed. Most important is the absence of a discussion of the need for a testable theory of discrimination in academia with explicit tests of the theory. Without measures of quality, preferences and other important influences on faculty earnings, and the capability to separately estimate demand and supply influences on earnings, the attribution of unexplained differences in salaries (e.g., between men and women) to discrimination is subject to major error. Chapter 5 thoughtfully discusses the problems a university faces in making choices between uniform salary structures and differentiating salary structures by field. Chapter 6 provides a number of calculations of returns to the faculty member from publication, as well as the effect of reward structures on faculty allocation of time. Chapter 7 contains a discussion of the appropriateness of economic incentives on faculty.

Future research on faculty earnings functions will probably be based on hedonic wage equations. For an application of hedonic wage equations, see Robert E. B. Lucas, "Hedonic Wage Equations and Psychic Wages in the Returns to Schooling," *American Economic Review*, 67 (September 1977) pp. 549-558.

2.3 Issues in Altering Incentives on Faculty and Institutions

5:2.3/76-1

Education as an Industry, Joseph N. Froomkin, Dean T. Jamison, and Roy Radner, eds., National Bureau of Economic Research, 489 pp. (Ballinger Publishing Co., Cambridge, Mass.).

This book contains 11 papers given at a 1971 conference, "Education as an Industry," sponsored by the National Bureau of Economic Research at the University of Chicago. Part 1 deals with educational production. The first paper, "The Ph.D. Production Process" by David W. Breneman, summarizes his important study of departmental behavior in granting Ph.D.'s. Assuming that academic departments maximize prestige and that a department's prestige is influenced by the prestige of the departments in which its Ph.D. graduates are placed, he provides empirical support for the hypotheses that academic labor markets and university budgetary policies relating departmental budgets to enrollments (rather than graduates) explain departmental differences in average time of candidacy and in student attrition.

In a paper by Dennis J. Dugan, "Scholastic Achievement: Its Determinants and Effects in the Education Industry," variables measuring effects on potential students "of the home, school and community" were found to influence not only actual enrollments but also earlier aspirations and enrollment plans. The author also analyzes admissions decisions by colleges, and some of the determinants of scholastic achievement.

"Graduation, Graduate School Attendance, and Investment in College Training" by Lewis J. Perl describes studies of college graduation as a function of variables for student financial status (including time spent working while in college), ability measures for the collegiate student body, and characteristics of the institution (including expenditures per student) on instructionally-related activities and on "research and extention"). Findings are interpreted to represent institutional production behavior although they may in fact represent continuing enrollment demand.

The final paper on educational production is Henry M. Levin's "Concepts of Educational Efficiency and Educational Production." This discusses a number of theoretical problems in the interpretation of estimated educational production functions—such as differences in production technique and in preferences of participants in the educational process. The author also makes the point especially relevant to uses of production functions in policymaking that when these functions differ, "Optimal factor proportions will vary from firm to firm, and a uniform adoption for the industry will reduce allocative efficiency".

The second part of the book contains two papers on compensatory education. "Cost Performance of Computer Assisted Instruction for Education of Disadvantaged Children" by Dean T. Jamison, et al., evaluates three computer assisted instructional programs for disadvantaged students: elementary arithmetic, initial reading, and computer programming for high school students. The authors evaluated achievement, and using Gini coefficients and other measures, evaluated the degree to which disadvantaged students closed the statistical gaps between themselves and others. The other paper, "A Study of the Relationship of Instructional Process and Program Organization to the Success of Compensatory Education Projects in California," by Herbert J. Kiesling, applies a production function approach to evaluate compensatory education projects.

The third section of the book, devoted specifically to higher education, contains four papers. "Demand for Higher Education in the United States: A Second Progress Report" provides a large portion of the major study of enrollment demand presented in Roy Radner and Leonard S. Miller, *Demand and Supply in U.S. Higher Education*, New York: McGraw-Hill, 1975, (See 5:1.1/75). June O'Neill's well-known work on productivity in higher education is presented in "Productivity Trends in Higher Education." An interesting paper by Robert M. Oliver and David S. P. Hopkins titled "Instructional Costs of University Outputs" provides an alternative methodology for calculating higher education costs in which the unit of cost is a cohort of students over their entire careers in an institution. "Faculty-Student Ratios in U.S. Higher Education" presents Roy Radner's important study of these ratios and related institutional behavior. (See annotation of Radner-Miller volume.)

The book concludes with a thoughtful discussion by Joseph N. Froomkin of "Policy Issues in the Education Industry." The author evaluates the concept of educational production functions and argues "that a better understanding of learning theory may contribute to the building of more realistic educational production functions."

5:2.3/76-2

University Costs and Outputs. Donald Verry and Bleddyn Davies, 277 pp. Studies on Education, Vol. 6, (Elsevier, Amsterdam and New York).

This annotation consists of portions of a book review by Stephen A. Hoenack published in the *Journal of Higher Education*, Volume 49, No. 3 (1978) pp. 296-298.

This book, an economic study of British universities, is the most thoughtful empirical study of production within higher education to date and probably is as successful as possible in quantifying production in higher education. Thus, the reader can use it in part to judge the potential of production information to validly inform central university decision-making. The authors developed a straightforward economic theory of university production. From their theory, they derived both production functions that express relationships among inputs and corresponding outputs, and unit cost functions that express each output's cash unit cost, given the level of output and the choice of combination of inputs used to achieve the output. These relationships take account of the possibility that research and instructional outputs can be produced more efficiently in conjunction with one another. To estimate the coefficients in their cost and production functions the authors collected an enormous data base. Measures of inputs, outputs, and costs for instructional and research activities were constructed for most British universities' academic departments grouped into categories for arts, social sciences, mathematics, physical sciences, biological sciences and engineering. Multivariate statistical analysis was used for the estimation with a variety of different measures of variables and forms of mathematical specification of the cost and production functions.

The authors attempted to answer three questions with their estimated functions. First, are there economies of scale, i.e., when all inputs increase proportionately, do outputs increase more than proportionately? Second, what are marginal costs, as opposed to average costs, of production in higher education? Third, when are research and instructional activities performed more efficiently together than apart? Using interesting graphics, the authors provided estimates of marginal costs in comparison with average costs for different levels of output for each category or department. The answers to the first and third questions were inconclusive.

In attaching meaning to the authors' empirical work, two issues should be kept in mind. The first is the validity of the measures used for inputs and outputs. The limited availability of data forced the authors to use extremely crude measures. The two measures of research outputs used were counts of articles and hours of faculty time spent on research, the latter being an input used as a proxy for output. The measures of instructional outputs used were numbers of students and the levels of degrees. Students' initial levels of achievement were controlled by average grades previously earned. Inputs attributed to each output included measures of faculty time based on questionnaire responses to surveys of faculty activity and data on other inputs, such as non-academic staff, which were attributed to outputs proportionately with faculty inputs. An obvious problem with these measures is that their quality may vary. For example, the failure to measure the quality of resources devoted to instruction might create the spurious appearance of economies of scale.

The second important issue is the set of incentives which influenced the behavior underlying observed production activity. A major goal of examining production relationships is to learn about the most technically efficient modes of operation; it is crucial to be able to assume that observed behavior depends on strong incentives to be efficient. In highly competitive industries this assumption is usually realistic, but in higher education it is most questionable. A related difficulty is that incentives to give greater importance to one output than to another can create the appearance of inefficiency in the production of the other if inputs are not fully attributed to each output. Incentives are probably not uniform among universities, causing the production data to represent varying degrees both of inefficiency and relative importance of outputs. Although the authors compensated for this problem by omitting data on Great Britain's most prestigious research institutions, incentives surely must vary substantially among the remaining institutions.

See by the same authors "Cost Functions for University Teaching and Research," *Economic Journal*, Volume 85 (March 1975) pp. 55-74.

5:2.3/74

Efficiency in Universities: The La Paz Papers, Keith G. Lumsden, ed., 278 pp. (Elsevier Scientific Publishing Co., New York).

This book contains 11 papers by well known economists on issues related to efficiency in universities. The papers are organized within four sections. The first section, "The Role of the University," contains Kenneth

J. Arrow's well known paper "Higher Education as a Filter," and Harry G. Johnson's, "The University and the Social Welfare: A Taxonomic Exercise," a thoughtful discussion of the economic roles of a university's participants and clientele. There are three papers in the section on "The University as a Productive Unit." In "The University as a Multi-Product Firm," Donald V. T. Bear explores the appropriate centralization of decisionmaking authority and the various uses of information for university efficiency. "On the Measurement of Inputs and Outputs in Higher Education" by G. C. Archibald and "Educational Production and Human Capital Formation" by Richard Attiyeh and Keith G. Lumsden explores issues in quantifying production relationships in higher education. (Another reference to this topic is Donald Verry and Bleddyn Davies, *University Costs and Outputs*, Amsterdam: Elsevier, 1976 (5:2.3/76)).

Two papers constitute the volume's section on "New Techniques in Universities." In "The Cost-Effectiveness of the New Media in Higher Education," Richard Layard provides a cost-benefit analysis of alternative instructional techniques. Keith G. Lumsden quantitatively analyzes course evaluations determinants in terms of student characteristics and the importance attached by them to different aspects of courses.

Under "Financing University Education" is a paper by William C. Brainerd titled "Private and Social Risk and Return to Education," which "analyzes the importance of access to perfect loan markets in a world of certainty," and deals with the effects of uncertainty on the attractiveness of investment in education.

The remaining papers in this section along with Richard Attiyeh's introductory essay discuss a number of problems in using market incentives within universities. Attiyeh emphasizes issues in ensuring that basic research is properly priced. Melvin W. Reder in "A Suggestion for Increasing the Efficiency of Universities" also discusses the pricing of research and suggests that by requiring students to pay extra for "high participation" options that involve heavy use of instructional time, a university could induce students to use this valuable resource economically.

Paul H. Cootner provides an especially important discussion of the concept of economic efficiency in universities in "Economic Organization in the Modern University." Based on this discussion, the author evaluates the potential for use of the price system to improve efficiency. (Aside from the papers in this volume, discussion of economic efficiency and market incentives within universities include: David W. Breneman, "Internal Pricing Within the University—a Conference Report," Report P-24, Ford Foundation Program for Research in University Administration, Berkeley, California, 1971; John Dunworth and Rupert Cook, "Budgetary Devolution as an Aid to University Efficiency," *Higher Education*, Volume 5, No. 2 (1976) pp. 153-167; Stephen A. Hoenack, "Direct and Incentive Planning Within a University," *Socio-Economic Planning Sciences*, Volume

11, No. 4 (1977) pp. 191-204; Stephen A. Hoenack and Alfred L. Norman, "Incentives and Resource Allocation in Universities," *Journal of Higher Education,* Volume 45, No. 1 (1974) pp. 21-37; Richard Layard and Richard Jackman, "University Efficiency and University Finance" in M. Parkin, ed. *Essays in Modern Economics,* London: Longmans; Mark Nerlove, "On Tuition and the Costs of Higher Education: Prolegomena to a Conceptual Framework," in Theodore W. Schultz, ed., *Investment in Education: The Equity-Efficiency Quandary, Journal of Political Economy,* Volume 80, No. 3, Part II (1972) S178-S218 (5:2.3/72-2).

5:2.3/72-1

Economic Analysis for Educational Planning. Karl A. Fox, 376 pp. (Johns Hopkins Press, Baltimore, Md.).

This volume discusses from an economic perspective optimization models in which a decisionmaker's objectives and constraints are quantified, and actions which maximize achievement of the objectives are calculated. Most of the advances in the postwar period in the design interpretation and computation of optimization models are covered. Problems of using optimization models are discussed more thoughtfully than in most other sources; however, even here inadequate attention is given to the contexts in which these models are unlikely to be useful. Nevertheless, the quality of each chapter is superlative. In the first chapter, Karl A. Fox provides an overview of issues in modeling behavior in nonmarket settings. Chapters 2 and 3 by Jati K. Sengupta discuss and evaluate several types of optimization models and explore issues in interpreting optimality in nonmarket settings. The author also discusses intervention in internally established markets to achieve optimality; an approach to planning is thus derived.

Chapters 4 and 5 by T. Krishna Kumar provide a rich discussion of issues of modeling behavior in an environment of decentralized decisionmaking, which is an important characteristic of much of education. The author discusses the concept of decomposition in behavior models and an application of this concept to educational systems is demonstrated. Chapter 6 by Sengupta shows the different optimal solutions for alternative models using actual data from an academic department. In Chapter 7, Bikas C. Sanyal provides an overview of the actual practice of systems analysis in higher education, including the uses of simulation models to explore consequences of alternative decisions. In Chapter 8, based on experience in applying optimization models to units he has headed at Iowa State University, Fox discusses data problems in implementing these models. He also discusses approaches he has used in measuring academic quality. In Chapter 9 Fox describes optimization models, including one employed for planning of extension services in Iowa, and Fox's excellent and well known work on departmental planning. In a final chapter on areas of potential application, Fox states, "Although glamor may attach to models of whole universities and of national educational systems, the optimizing approach may prove to be most valuable at department and subdepartment levels."

5:2.3/72-2

Investment in Education: The Equity-Efficiency Quandary. Theodore W. Schultz, ed., 292 pp. *Journal of Political Economy*, Vol. 80, No. 3.

This volume is a series of papers presented at a 1971 Workshop at the University of Chicago, sponsored by the Committee on Basic Research in Education of the National Research Council. It remains one of the most important sources on the economics of higher education, in large part because of Theodore W. Schultz's introductory essay, "Optimal Investment in College Instruction: Equity and Efficiency." A portion of this essay is concerned with interrelationships between investment in education, economic growth, and the contribution of education to allocative efficiency during the economic growth process. Schultz presents the hypothesis that educated individuals are more prompt in responding to opportunities resulting from disequilibria, including opportunities created by growth, resulting in rapid adjustments beneficial to both the individual and society. Inadequate attention has been given to this important hypothesis on which Schultz provides further justification in "The Value of the Ability to Deal With Disequilibria," *Journal of Economic Literature*, Volume 13 (September 1975) pp. 827-846. Schultz's essay sparked an interesting debate within the workshop by making an eloquent argument for largely eliminating subsidies for high-income students, and targeting that aid to low-income students. Schultz argues that this is a preferred alternative to the existing policy of providing relatively uniform subsidies–both because most high-income students would attend anyway and given the degree to which society is willing to subsidize higher education, uniform subsidies may be insufficient to influence the choices of many low-income students. Anne O. Krueger responds that subsidies to the poor should be independent of college attendance, and Harry G. Johnson adds that many individuals from low-income backgrounds considering college have higher income prospects than the same individuals who are not.

Other papers in the volume include "Time Series Changes in Personal Income Inequality in the United States from 1939, With Projections to 1985," by Barry R. Chiswick and Jacob Mincer. This is a pioneering attempt to use a human capital earnings function to relate changes in income inequality over time to "the distribution of age, schooling, employment, and rates of return, and to the intercorrelations among these variables." The authors found that schooling, age, and unemployment were the major determinants of changes in the income distribution for adult males in the United States between 1939 and 1965. For a related use of earnings functions see Finis Welch, "Black-White Differences in Returns to Schooling," *American Economic Review*, Volume 63 (December, 1973) pp. 893-907. Two papers are included on attempts to control for ability and other variables in estimates of earnings functions, or relationships between income, schooling and other variables: "Education, Income and Ability" by Zvi Griliches and William M. Mason, and "Earnings Profile: Ability and Schooling" by John C. Hause. Recent work casts doubt upon the results of these studies. See Zvi Griliches, "Estimating the Returns to Schooling, Some Econometric Problems," *Econometrica*, Volume 45 (January 1977) pp. 1-22 (5:4.0/77-2), and particularly see Paul Taubman, "Earnings, Education, Genetics and Environment," *Journal of Human Resources*, Volume 11 (Fall 1976) pp. 447-461 (5:4.0/76-2).

In "Equity Implications of State Tuition Policy and Student Loans," Robert W. Hartman attempts to "illustrate the gross effects on future income distribution of an increase in tuition at state institutions," with and without expanded loan programs. Samuel Bowles deals with relationships between social class, schooling and income between generations in "Schooling and Inequality from Generation to Generation." Improvements in these pioneering studies are likely to result from the recent conceptual work of John Conlisk ("A Further Look at the Hansen-Weisbrod-Pechman Debate," *Journal of Human Resources*, Volume 12 (Spring 1977) pp. 147-163 (5:5.0/77). In "Equity and the Finance of Higher Education," W. Lee Hansen points out that there is little evidence supporting the argument that external benefits from educated individuals justify subsidies to higher education. Hansen discusses alternative concepts of equity in educational finance and evaluates proposals for improving equity. Harry G. Johnson in "The Alternative Before Us" provides a discussion of equity within higher education in the context of equity in the society at large. Finally, in "Some Reflections" Edward F. Dennison states that there is little empirical support for the common notion that efficiency benefits result from subsidizing students with high abilities.

5:2.3/64

Higher Education in the American Economy, Andre Daniere, 206 pp. (Random House, New York).

This book remains the most comprehensive discussion of the potential role of pricing in higher education for the purpose of "increased well-being for American society at large." It is also perhaps the best available discussion of the appropriate involvement of government in higher education. A measure of the quality of the book is that if the author were to revise it, taking into account the large quantity of empirical research since it was written, he would not need to alter much the book's behavioral analysis or policy recommendations. (An exception is the author's proposal that planners make projections of occupational manpower needs).

The book begins with an evaluation of the potential contribution of economics to policymaking, given the goals and constraints of the policy setting. Chapters 2-5 offer a comprehensive discussion of pricing in higher education, including the author's well-known advocacy of relating prices to costs. Pricing in the presence of jointness in production and economies of scale is analyzed. The author discusses major imperfections in the higher education market including absence of information and defective capital markets. Chapter 6 is a superb discussion of the major problem of correctly pricing research activities, particularly when research does not directly benefit any potential buyer such as the government, and when research is produced jointly with instruction. Chapters 7 and 8 systematically derive specific proposals for governmental involvement and planning in higher education to overcome imperfections in the higher education market. This is truly one of the least ad-hoc discussions of higher education planning available. The author also summarizes many of his well known policy recommendations, including high tuition combined with subsidized loans; financing of a broad, active information and counseling program in "strategic" high school years; and partial or total subsidization of the freshman year. Chapters 9 and 10 evaluate on grounds of economic efficiency the existence of free public higher education, and the co-existence of free public higher education and high-priced private higher education. (On the latter, see also Michael Clurman, "Does Higher Education Need More Money," *The Economics and Financing of Higher Education in the U.S.*, Washington, D.C.: U.S. Government Printing Office, 1969, pp. 632-651.) Chapter 11 is a further discussion of higher education planning in terms of regulating competition. The author discusses efficiency in primary and secondary education in Chapter 12.

3.0 INCENTIVES AND PUBLIC AND PRIVATE FUNDERS

3.1 Interactions Between Public and Private Funding

5:3.1/76

"Public Spending for Higher Education: An Empirical Test of Two Hypotheses," Charles T. Clotfelder, *Public Finance*, Vol. 31, No. 2, pp. 177-195.

This study provides estimates of a model in which separate equations appear for public expenditures on higher education and for individual demand for attendance in public institutions. The author intends for the public expenditures equation to provide tests of two hypotheses about the nature of public spending: the hypothesis of "welfare-maximization" in which a measure of out migration of college graduates is argued to relate to a state's benefits of subsidizing higher education, and the hypothesis of "fiscal illusion" in which measures of simplicity of the tax structure are argued to relate to the public's perceptions of costs of public services, and correspondingly its willingness to pay for them. Enrollments in public institutions appear in this equation as a determinant of public demand for higher education. The equation for individual demand for attendance in public institutions, i.e., the level of enrollments in these institutions, includes variables for average tuition in public institutions and a number of variables for the socioeconomic composition of the state and a set of regional "dummy" variables. Average tuition in private institutions is not in this equation, and the author apparently does not treat tuition in public institutions as determined within the model via the variable for public expenditures. Results for the expenditure function provide modest support for both hypotheses. Tuition charges in public institutions were found to not be related to public expenditures on higher education. However, this result could be due to treatment of tuition charges as not determined within the model, or to misspecification of the individual enrollment demand function, or both.

5:3.1/73

"The Effect of Government Subsidies-in-Kind on Private Expenditures: The Case of Higher Education," Sam Peltzman, *Journal of Political Economy*, Vol. 81, No. 1, pp. 1-27.

This study is a pioneering attempt to provide estimates of effects of public funding of higher education on private funding of higher education, and vice versa. The author's theoretical discussion analyzes the behavioral effects of public tuition as a subsidy-in-kind. Empirical estimates are based on a 2-equation cross-section model which explains total levels of per capita educational and general expenditures (excluding organized research expenditures) in each State's public and private institutions. Explanatory variables include per capita income (governmental revenue for public institutions, personal income for private institutions); high school graduates divided by population; estimates of outmigration of State residents to attend, respectively, public and private institutions; and, in each equation, the dependent variable in the other equation. These latter variables were used to estimate the effects of public on private funding and vice versa. For example, in the equation for private funding, the coefficient of public funding provided "an estimate of the dollar reduction in private-institution expenditures per dollar increase in expenditures at governmental institutions." The author found that this amount is about sixty cents, and in an equation modified to exclude public funding of out-of-state students, the displacement rises to approximately seventy cents. The author also estimated equations for public and private enrollments in each State, finding "that most government higher-education resources replace private resources with these resources being spread over somewhat more students."

A significant aspect of the Peltzman model is the aggregation of behavioral relationships. The relationship for public funding of higher education aggregates student behavior and governmental subsidy behavior. Similarly, the relationship for private funding aggregates behavior of students and private donors. An important next step in improving understanding of interrelationships between public and private funding of higher education will be the development and estimation of models which treat these relationships separately.

3.2 Tax Policy and Donor Behavior

5:3.2/75

"The Income Tax and Charitable Contributions: Part II - The Impact of Religious, Educational and Other Organizations," Martin Feldstein, *National Tax Journal,* Volume 28, pp. 209-226.

Since donations to higher education institutions are a major source of their income, the influence of government on these donations forms an important part of higher education policy. Martin Feldstein's study is a pioneering attempt to estimate the effects of income and price (including tax deductibility) on charitable giving. He employed a set of data published by the Internal Revenue Service in 1962 which provided itemized charitable contributions in 17 adjusted gross income classes for educational institutions and four other classes of charities. Unfortunately the category for educational institutions includes elementary and secondary, as well as higher education. However, it is likely that the bulk of giving in this category is to colleges and universities. The author found that both income and price have large and statistically significant effects on charitable giving to educational institutions.

One data problem which Feldstein found was the necessity of measuring price "by using the 1962 marginal tax rate for a joint return with the average taxable income in class i." As a result, "with a single year's cross-section sample of aggregate data, the price is functionally related to taxable income." The author dealt with this problem imaginatively; however, he posits that there may remain an overestimate of the price elasticity. In another study, William S. Reece employed data from the Bureau of Labor Statistics Consumer Expenditure Survey and was able to obtain variation in the price variable independent of the income variable via individual tax rates in the State of residence of the donor as well as by including nontaxable income in the income variable. (See "Charitable

Contributions: New Evidence on Household Behavior," *American Economic Review*, to appear in Volume 69, No. 1 (1979).) This study found a statistically insignificant effect of the price variable for contributions to educational institutions. However, Reece's data include households having incomes up to $40,000; Feldstein's IRS data shows that a major portion of giving to educational institutions occurs at higher incomes.

4.0 ECONOMIC IMPACT OF HIGHER EDUCATION ON STUDENTS

5:4.0/77-1

"Estimating the Returns to Schooling: Some Econometric Problems," Zvi Griliches, *Econometrica*, Vol. 45, No. 1, pp. 1-22.

This is an important discussion of the possible causality underlying estimated "earning functions," which relate earnings to years of schooling and other variables. The author gives particular attention to earning ability as a causal influence separate from schooling and how failure to control for ability can lead to overestimates of the effect of schooling on earnings. Two extreme views are outlined: one in which test scores may be regarded as measures of ability, and another in which ability represents independent causal influences such as "energy" or "motivation." The author suggests a middle ground where ability relates to test scores and family background variables. A structural model is proposed which includes an equation for ability as a function of test scores and family background, equations for interrelationships between test scores, ability and schooling, and an earnings function relating earnings to schooling and instruments for ability, including alternative test scores. Estimates of an abbreviated version of this model based on data from the National Longitudinal Survey show a somewhat smaller effect of schooling on earnings when the ability measures are included in the earnings equation. When the model is expanded to include schooling as an endogenous variable, it provides substantially higher estimates of the effect of schooling on earnings.

While this study goes considerably beyond most others, the author emphasizes many important problems not dealt with in his model. These include the role of on-the-job training and experience, consumption benefits of schooling and non-monetary returns to schooling. On these three topics, respectively, see Sherwin Rosen, "Learning and Experience in the Labor Market," *Journal of Human Resources*, Volume 7 (Summer, 1972) pp. 327-342; Edward Lazear, "Education: Consumption or Production?" *Journal of Political Economy*, Volume 85 (May/June, 1977) pp. 569-597; and Robert E. B. Lucas, "The Distribution of Job Characteristics," *Review of Economics and Statistics*, Volume 56 (November, 1974) pp. 530-540.

Another attempt to deal with the omitted variable problem is Gary Chamberlain, "Education, Income and Ability Revisited," *Journal of Econometrics*, Volume 5 (1977) pp. 241-257. However, the recent work of Paul Taubman (See 5:4.0/76-2) strongly suggests that available instruments for ability and family background are unreliable.

5:4.0/77-2

"Economics of Education: An Assessment of Recent Methodological Advances and Empirical Results," George Psacharopoulos, *Social Science Information*, Vol. 16, No. 3, pp. 351-371.

This is a recent survey of empirical research on the economics of education which could be helpful as a first reading on the topic. Only part of the research discussed is on higher education, per se. However, much of the discussion of other parts of the education sector (e.g., on returns to elementary and secondary education relative to higher education) is likely to be of interest to the higher education planner.

The survey summarizes (1) recent shifts in emphasis in research, including issues related to income distribution; (2) sociological tools used by economic researchers; (3) major results on the economic effects of schooling (without discussion of possibilities for spurious attribution of earnings to schooling), e.g., that "the social profitability of education is higher at the lower levels of education, especially in less developed countries," "education does not act simply as a screening device," and "IQ as usually measured, has a small effect on earnings;" (4) the author's interpretation of the policy implications, including "Stop the elaboration of global, long-range educational plans and concentrate on specific short term projects;" and (5) suggestions by the author for likely fruitful and unfruitful topics for future research.

The author concludes that "research activity (should concentrate) on how to produce flexible men to fit an ever-changing society."

5:4.0/76-1

"Human Capital Theory: A Slightly Jaundiced Survey," Mark Blaug, *Journal of Economic Literature*, Vol. 15, No. 3, pp. 827-855.

In some respects, this article is already outdated. However, it is probably the best source for an evaluation of existing research on the economics of human capital, including the economics of higher education. The article is also a useful survey of existing research. Based on work of Imre Lakatos, the author characterizes research on human capital as a "scientific research program," with a "hard core" and a "protective belt." The former represents the basic concept of human capital as that in which "people spend on themselves in diverse ways, but for the sake of future pecuniary and nonpecuniary returns." The latter represents the particular testable human capital theories on which research has been done. A distinction also is made between a "progressive" research program in which theories predict "novel hitherto unexpected facts" and a "degenerating" research program which "accommodates" whatever new facts become available by endless additions of *ad hoc* 'epicycles'." Much of the author's evaluative discussion is organized around these distinctions.

The author evaluates the specific research areas of: (1) The demand for schooling, including the demand for study in specialized fields. He argues that insufficient research has been done on this topic and that much of existing research has failed to account for instructional supply behavior; (2) The supply of and demand for labor training. The author argues that existing research fails to "separate appreciation of human capital over time due to costless learning-by-doing from appreciation due to costly self-improvement by workers . . . ". He also states that it remains to "square the picture of workers choosing between jobs with different earning-learning ratios with the notion of firms jointly producing goods and services for their customers and giving learning opportunities to their employees." (This issue had been analyzed by Sherwin Rosen—cited under 5:4.0/77-1.) (3) The calculation of private and social rates of return. The author points out the failure of human capital theory to adequately explain differences in returns: "The steadfast refusal to exploit these anomalies in a further boost of fruitful theorizing is perhaps the best indication we have that the human-capital research program may indeed have started to 'degenerate'." (4) Estimates of earnings functions. It is argued that "An earnings function is a reduced form equation and in the absence of estimated structural coefficients of the underlying simultaneous-equation model, we have every reason to suspect that the coefficients of the single equation are biased." The problems with use by researchers of proxy variables to control for "ability" in earnings functions are also pointed out, along with the failure of most researchers to use longitudinal data.

The author evaluates the relationship of the screening hypothesis to human-capital research. He concludes that:

> In all likelihood, the human-capital research program will never die, but will gradually fade away to be swallowed up by the new theory of signaling, the theory of how teachers and students, employers and employees, and indeed all buyers and sellers select each other when their attributes matter but when information about these attributes is subject to uncertainty. In time, the screening by hypothesis will be seen to have marked a turning point in the "human investment revolution in economic thought," a turning point to a richer, still more comprehensive view of the sequential lifestyle choices of individuals.

5:4.0/76-2

"Earnings, Education, Genetics and Environment," Paul Taubman, *Journal of Human Resources,* Vol. 11, No. 4, pp. 447-461.

This study is by far the most important attempt to estimate the effects of schooling on incomes. The author uses a superior data base and with the estimates permitted by it, casts doubt upon all earlier research on this topic. The data include a sample of 2468 pairs of twins which permits control for genes and family background. "When we regress differences in brothers' earnings on differences in schooling, we hold constant (by eliminating) those abilities that are common to the brothers. For fraternal twins, we eliminate skills produced by the common or family environment, while for identical twins we eliminate common environment and skills based on genetic endowments." The sample also permitted the author to estimate the variance of earnings attributable to the "sum and the separate effects of genetic endowments and common (family) environment and the extent to which this variance is attributable to non-common environment." The author's estimates of earnings functions based on data from the sample but without the feasible controls for genes and family background yield results similar to those obtainable from Census data. The addition of proxies for family background similar to those used in other studies reduces the coefficient on schooling by about 12 percent. However, the introduction of the controls for genetics and family background permitted by the sample reduces the coefficient of schooling by two-thirds. This result casts considerable doubt upon all earlier estimates of the effects of schooling on income.

See also by Paul Taubman, "The Determinants of Earnings: Genetics, Family, and Other Environments; A Study of White Male Twins," *American Economic Review,* Volume 66 (December, 1976) pp. 858-870.

5:4.0/75-1

"Demography, Technology, and Higher Education: Toward a Formal Model of Educational Adaptation," Stephen P. Dresch, *Journal of Political Economy,* Vol. 83, No. 3, pp. 535-569.

This study is a major contribution to the economics of higher education for two reasons. First, it provides a basis grounded in economic theory for the evaluation of long-term trend forecasts of enrollments such as those provided by the National Center for Education Statistics and the Carnegie Commission on the Future of Higher Education. Second, the study provides a basis for understanding the sources of instability of economic returns to higher education, and permits forecasting changes in these returns. The author's model makes the simplifying assumptions that the labor force and the population between the ages of 24 and 65, referred to as the Active Adult Population (AAP), are identical, and that the educational composition of the AAP can be characterized by the two categories of (college) educated and (college) uneducated individuals.

A production function incorporating assumed effects over time of technical change, posits relationships between these two categories of labor and aggregate output. Given the educational composition of the AAP, the production function determines "the current wage differential on the basis of relative endowments of educated and uneducated labor." Under the assumption that the educational characteristics of cohorts entering into the labor force are determined by educational wage differentials in prior periods, and under assumed labor supply relationships, the relative numbers of educated and uneducated individuals in the next entering cohort are determined. Given assumed death and retirement rates, persons leaving the AAP, characterized by age and education are also determined. Thus, the model permits forecasts of the educational characteristics of the AAP and corresponding wage differentials in each future period. An important characteristic of this model is that through use of a production function, the total stock demands and supplies for educated and uneducated manpower adjust to equilibrate the labor market. This is in contrast to Richard Freeman's forecasting model (See 5:1.2/76, Appendix B in *The Overeducated American*, New York: Academic Press), in which the flow of new, educated manpower adjusts to equilibrate the labor market.

The author provided simulations of the actual and equilibrium future educational composition of the AAP and future entrants into the AAP for each year to 2005. Differences between the actual and equilibrium educational compositions of the AAP can result from the lags implied by entry of educated individuals into the labor force in response to past wages. However, these lag effects are considerably "magnified by the succession of expanding and contracting entering (and exiting) cohorts" based on the age composition of the population.

Enrollment projections were derived from projected future entrants into the AAP. The author's model suggests a decline of enrollments of 33 percent over the 1970-2000 period compared with the Carnegie Commission projections of enrollment increases of between 50 and 90 percent. The author recognizes that some of the difference is attributable to the fact that the Carnegie Commission projection includes assumed increases in continuing education enrollments. However, the large disparity between the author's projections and trend projections strongly suggests that further refinement on Dresch's educational adaptation model could be important both in educational policymaking and in guiding research on the economics of higher education. Some aspects of this model have already been refined. A revision with an "ability-related" equilibrium wage relative and a cost-of-education function is presented in Dresch's, "Ability, Fertility, and Educational Adaptations," in Volume 1 of *Research in Population*

Economics, Julian L. Simon, Editor, Greenwich, Connecticut: JAI Press, 1977.

5:4.0/75-2

Education, Income and Human Behavior, F. Thomas Juster, ed., 438 pp. (McGraw-Hill Book Co., New York).

This volume brings together papers which deal with a variety of aspects of the economic impacts of education on students. Part One contains eight papers dealing directly or indirectly with monetary returns to education. In "Mental Ability and Higher Educational Attainment in the Twentieth Century" authors Paul Taubman and Terence Wales address the important issue of "determining the relationship between the percentage of high school graduates entering college and their mental ability at the time of college entrance." The authors found that average ability of entering freshmen increased during the upsurge of postwar enrollments. Jacob Mincer's "Education, Experience and the Distribution of Earnings and Employment: An Overview" provides in three parts "a summary of recently completed research on the relation between the distribution of earnings and the distribution of investments in human capital;" an examination of "the effects of human capital investment on the distribution of employment;" and a discussion of "the effects of secular trends in education on the structure and inequality of both individual and family income."

Two papers, "Education as an Investment and a Screening Device" by Taubman and Terence Wales and "Ability and Schooling as Determinants of Lifetime Earnings, or If You're So Smart, Why Aren't You Rich?" by John C. Hause are pioneering attempts to control for ability in measuring the effects of schooling on earnings. (Recent advances in controlling for ability in earnings functions include those by Zvi Griliches, "Estimating the Returns to Schooling: Some Econometric Problems," *Econometrica,* Volume 45, No. 1 (1977) pp. 1-22, and Paul Taubman "Earnings, Education, Genetics and Environment," *Journal of Human Resources,* Volume 11, No. 4 (1976) pp. 447-461.) A paper by Paul Wachtel, "The Returns to Investment in Higher Education: Another View" takes into account college costs in evaluation of returns to higher education. (For a broader treatment of college quality in earnings functions, see Lewis Solmon, "The Definition of College Quality and Its Impact on Earnings," *Explorations in Economic Research,* Volume 2, No. 4 (1975) pp. 537-587.) In "Education and the Allocation of Women's Time," Arleen Leibowitz analyzes relationships between education and the way women allocate their time, such as between child care and the labor market. Sherwin Rosen, in "Measuring the Obsolescence of Knowledge," examines the offsetting effects of learning and of depreciation through obsolescence of the educational capital of an individual over his lifetime.

Part Two of the volume deals with the effects of schooling other than cash earnings. Three papers deal with effects of education on consumer saving and consumption behavior. These include "Education and Consumption" by Robert T. Michael (See also *The Effect of Education on Efficiency in Consumption*, Columbia University Press, 1972, 139 pp. by the same author); "The Relationship Between Schooling and Savings Behavior: An Example of the Indirect Effects of Education" by Lewis C. Solmon; and "Education and the Price of Time, and Life-Cycle Consumption" by Gilbert R. Ghez. An interesting paper by Issac Ehrlich, "On the Relation Between Education and Crime," found "in contrast to the disappointing results obtained in testing the partial effect of (the mean number of school years completed by the population over 25) on specific crime rates, interesting and plausible results were obtained for the partial effects of education on the effectiveness of law enforcement activity across states." In "Education and Fertility" Robert Michael estimates relationships between education and family size. Albert Beaton also contained in "The Influences of Education and Ability on Salary and Attitudes," estimated effects of schooling and measures of ability on "salary, attitudes toward work, attitudes toward life, attitudes toward determinants on job success, and views on education."

5:4.0/74

Higher Education and Earnings, Paul Taubman and Terence Wales, 302 pp. (McGraw-Hill Book Co., New York).

This book provides estimates of relationships between earnings, schooling and ability based on a rich longitudinal data base. The data base includes records for 5,000 men who volunteered for service in the U.S. Army Air Corps in 1943 and participated in follow-up surveys in 1955 and 1969. Each record includes scores on 17 tests as well as information on income, and occupational and educational histories. Among alternative measures of ability used to estimate the effects of schooling on income, the authors found that only the score on a mathematical ability test influenced income. With this measure, they found that there is approximately a 25 percent overstatement of the effect of schooling on income if the mathematical ability test score is omitted from the estimation. Taubman's subsequent work suggests that available measures of ability and family background do not approximate these crucial influences. (See 5:4.0/76-2, Paul Taubman, "Earnings, Education, Genetics and Environment," *Journal of Human Resources*, Volume 11, No. 4 (1976) pp. 447-461.)

The authors gave particular attention to tests of the "screening hypothesis" in which education can contribute, aside from valuable skill, credentials either desired by employers as predictors of future performance or required as a means of restricting entry into occupations. An ingenious test of this hypothesis, based on comparison of actual entry with expected entry into occupations in the absence of credential restrictions, provided the finding that for those with a college education, screening does contribute substantially to earnings. Calculations of private and social rates of return to education were found to be in many cases lower than on physical capital, leading the authors to state that " . . . it appears that society has invested too many resources in education if the supply of savings is fixed. Further, the higher the education level (excluding lawyers and M.D.'s), the lower the rates, suggesting that the overinvestment is more severe at the higher levels. However, we have not included in our analysis allowances for externalities or consumption benefits which, if they yield large enough returns, could justify expenditures on education." "Since we find screening to be important quantitatively, our conclusion that overinvestment in education has occurred has strengthened." Samples of the many other results include a finding that good health contributed $7,000 per year to earnings in 1969, and that among students attending institutions within the upper fifth in measured quality, college quality significantly influenced earnings.

This book is extraordinarily well-written and is accessible to the nontechnical reader.

5.0 INCIDENCE OF BENEFITS AND COSTS OF EDUCATIONAL SUBSIDIES

5:5.0/77

"A Further Look at the Hansen-Weisbrod-Pechman Debate," John Conlisk, *Journal of Human Resources,* Vol. 12, No. 2, pp. 147-163.

One of the most significant results of the Hansen-Weisbrod study is the interest it has generated of the incidence of benefits and costs of higher education subsidies by income group. A number of researchers have argued, however, that calculations of current benefits and costs of educational subsidies by income group do not give an adequate picture of the effects of higher education subsidies on social mobility. The paper by John Conlisk is a major contribution in that it provides a formal model of intergenerational costs and benefits of higher education. The model includes equations for (1) before-tax lifetime income of a child as a function of his schooling, after-tax and after-tuition lifetime income of the parent, and schooling of the parent, and (2) schooling of the child as a function of tuition, after-tax parental income and parental schooling. There are also definitional equations relating taxes to before and after tax income, governmental expenditures to taxes, and income to subsidized and unsubsidized educational expenditures. The model can be solved to determine over generations the joint distribution of families by their before and after tax incomes, taxes, and schooling. The author uses his model to demonstrate that calculations of the current period incidence of benefits and costs of educational subsidies by income group are not reliable indicators of the intergenerational incidence of benefits and costs of the subsidies.

Estimates of the parameters of Conlisk's model could provide valuable information on the effects of existing subsidy systems on social mobility and could permit simulation of the effects on social mobility of a wide variety of alternative subsidy schemes. The model would need additional theoretical work, particularly in regard to the specification of intergenerational labor market conditions and the characteristics of the income distribution. The work of Taubman with twins permits estimates of the effects of schooling on income. These could be incorporated into the model, along with estimates available from several sources of the effects of tuition on schooling by income group. The National Longitudinal surveys provide some data on matched parent-child incomes, which have already been analyzed by Donald O. Parsons in "Intergenerational Wealth Transfers and the Educational Decisions of Male Youth," *Quarterly Journal of Economics*, Vol. 89 (November 1975) pp. 603-617.

5:5.0/69

Benefits, Costs, and Finance of Public Higher Education, W. Lee Hansen and Burton A. Weisbrod, 114 pp. (Markham Publishing Co., Chicago).

Originally prepared for the California Joint Committee on Higher Education in 1967, this study, published in slightly revised form, was one of the first and most influential in its systematic application of economic cost-benefit analysis to State financing of public higher education. Although its principal finding—that California public higher education operates as a vehicle for redistributing resources from lower income groups to higher income groups has been criticized, the study continues to be a highly influential and controversial guide to methodology among educational planners and economic researchers, stimulating improved understanding of the financing of public higher education.

The first chapter describes basic issues related to economic analysis of higher education, including distinctions between efficiency and equity, private and social benefits and costs, and institutional and non-institutional costs. The second chapter presents calculations of benefits of public higher education in California, among them increased individual incomes and taxes paid. The third chapter describes costs of public higher education, both to students and to the public.

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In the fourth chapter, "Distribution of Benefits and Costs of Public Higher Education," the authors posit two calculations. First, they calculated present values of subsidies and of resulting additional taxes paid. Based on these calculations, the authors note the large benefits received by students and by the Federal Government from the State's subsidies. Second, the authors calculated the incidence of higher education subsidies by income group via the incidence of attendance patterns by income group at public institutions in the State. They found that families with children in college tended to have higher incomes than families without children in college, and that the more costly public institutions tended to enroll students from families with relatively higher income backgrounds.

They also found that combined State and local taxes were regressive. By comparing the incidence of taxes by income group with subsidies received only from higher education, the authors conclude "that the current method of financing public higher education leads to a sizeable redistribution of income from lower to higher income." The authors recognize the crudeness of their calculation, suggesting further research aimed at improving understanding of the incidence of benefits and costs of higher education subsidies.

The latter calculation stimulated a number of important articles about the incidence of benefits and costs of higher education by income group. Joseph A. Pechman's "The Distributional Effects of Public Higher Education in California," (*Journal of Human Resources,* Vol. 5, No. 3, pp. 361-370), argues that the correct calculation, possible with the data used by the authors, was to calculate directly the subsidies received and taxes paid in each income bracket. Pechman's calculations suggest the opposite result—that net subsidies tended to be higher the lower the income bracket.

Joseph W. McGuire provides (*Journal of Human Resources,* Vol. 11, No. 3, 1976, pp. 343-353), calculations of subsidies received and taxes paid by income bracket and type of public institution attended with scholarship data included. He argues that only data on families without children in public institutions whose head is of comparable age to heads of families with children in public institutions should be used. His results support Pechman's.

The work of Hansen and Weisbrod has also stimulated interest in the intergenerational benefits and costs of higher education subsidies. [See Robert W. Hartman, "Equity Implications of State Tuition Policy and Student Loans," Theodore W. Schultz, ed., "Investment in Education: The Equity-Efficiency Quandary," *Journal of Political Economy,* Vol. 80, No. 3, 1972 pp. S142-S171 (5:2.3/72-2); and John Conlisk, "A Further Look at the Hansen-Weisbrod-Pechman Debate," *Journal of Human Resources,* Vol. 12, No. 2, 1977 pp. 147-163 (5:5.0/77-1)].

6

Educational Communication and Technology

James W. Brown

Technology has been applied in higher education in a variety of ways. Computers, television, electronic games, telephonics, and an array of audiovisual equipment now do the job once accomplished solely by the professor. But with these new forms of classroom communication come new problems, for neither the teaching effectiveness of these new media, nor the extent of their efficient use has been fully determined.

Use of technology in higher education involves more than installation of media facilities. It concerns the determination of learning goals and objectives to be achieved, and the capacity of students to achieve them. Further, faculty must learn both how to use instructional media, and how to coordinate their own teaching methods with available technology.

Thus, communication of knowledge through technological media involves a complex integration of many aspects of program design and implementation, aspects which have spread to all forms of human learning. The entries chosen within this topic emphasize the *systematic* application of the principles of educational communication and technology—the scientific approach to instructional management and planning.

Bibliographic entries selected for use here have been categorized under five headings: (1) research and theory, (2) surveys and trends studies, (3) instructional design and development, (4) standards and guidelines, and (5) reference.

Research and Theory. Research and theory pertaining to instructional technology may be described, at least at present, as only partially matured. Much remains to be done to lift the field's status to a "science." The most recent significant studies in these fields (which differ considerably from those of a few years ago), are believed by many investigators to presage what will ultimately be regarded as a revolutionary conception of education at all levels.

Surveys and Trends Studies. Surveys and trends studies of instructional technology applications in higher education appear to be comprised chiefly of rather brief "case reports" and syntheses of research- and opinion-based reports (as, for example, the Carnegie Commission's *Fourth Revolution: Instructional Technology in Higher Education*). Nevertheless, together they form a quite meaningful and helpful base on which to consider current issues and potentials of the field.

Instructional Design and Development. Studies and position papers pertaining to instructional design and development form a principal base of curriculum reform, especially for higher education. Here, emphasis is upon clear definition of instructional/learning goals, attention to learner characteristics and to preteaching assessment of learner status, selection of subject content, insightful selection of teaching/learning activities and resources, adequate consideration of institutional resources to support curriculum activities, and continuous evaluation and evolutionary improvement of the learning system itself.

Standards and Guidelines. Standards and guidelines for the design and administration of higher education instructional technology systems, although frequently in the process of being developed through influential national organizations, are only preliminarily refined. Still, enough may be discerned from them in their present incomplete state to predict generally their status in the near future of higher education.

Reference. Several recent publications combine to improve access by educational planners to reference data pertaining to instructional technology. The relative few noted here will aid higher education planners, particularly, in obtaining and recording required data.

TOPIC ORGANIZATION

6: Educational Communication and Technology
  - 1.0 Theory, Research and Issues
  - 2.0 Trends
  - 3.0 Instructional Design and Development
  - 4.0 Standards and Guidelines
  - 5.0 Data Sources

1.0 THEORY, RESEARCH AND ISSUES

6:1.0/77

"The Effect of Technology on Instruction: The Literature of the Last Twenty Years," Harold L. Schoen and Thomas C. Hunt, *AEDS Journal*, Spring, Vol. 10, pp. 68-80.

This article, one of very few of its kind, effectively summarizes research of the past 20 years pertaining to uses and effects of technology on instruction. Of specific interest to planners, including those at the level of higher education, is its theme that "educational technology has reached the status of a new field which is characterized by the attempt to apply both the products and the processes of technology to the problems of education."

Special attention is given in the article to the research residue related to programmed instruction, the use of behavioral objectives, individualized instructional systems, and problems of measuring educational variables (including validation of tests in the milieu of "normal distribution" *versus* criterion-referenced, mastery learning).

The authors conclude with a number of predictions about instructional technology: (1) the present popularity of "learning packages" will decline, (2) there will be continued growth in the practice of planning instruction around specific behavioral objectives, (3) computer-assisted instruction will grow in importance when its costs decrease and when a suitable theoretical base is developed for it, (4) continued research and development will be conducted with methods of instruction, curriculum organization, and scheduling methods, (5) drastic changes in education are unlikely to occur soon at the public school (but not necessarily at the university) level, and (6) there will be continuing opposition to the instructional technologist's conception of "education."

A good 27-item bibliography provides leads to further exploration of these and other points raised in this review.

6:1.0/74

"Selective Review of the Results of Research on the Use of Audiovisual Media to Teach Adults," Peggie L. Campeau, *AV Communication Review*, Spring, Vol. 22, pp. 5-40. (Association for Educational Communications and Technology, Washington, D.C.)

This study was conducted under the auspices of the Council for Cultural Cooperation of the Council of Europe; it summarizes findings of selected experimental studies investigating the instructional effectiveness of various technological (audiovisual) media for teaching adults. Most of the studies were performed with higher education groups. Selection criteria required that they be recent (1966 through 1971), detail experimental procedures, be published, deal with groups of no fewer than 25 adult students each, be conducted through a treatment lasting no less than an hour under "equal coverage" conditions, and report results obtained through comparable or identical objective achievement tests administered to both control and experimental groups dealing with cognitive benefits. Computer-assisted instruction studies were not included. A principal (but not the only) source of the studies used was the Educational Resources Information Center (ERIC) Clearinghouse file which, at that time, contained about 1,200 items on the topic. A disappointingly small number of studies (little more than a dozen) met the stated criteria.

Findings were reported under various media-related headings such as: programmed instruction; television, videotape, and motion pictures; slides, filmstrips, overhead transparencies and still pictures; radio and tape recordings; and multiple media. The author concludes that:

> . . . enormous amounts of money are being spent for the installation of very expensive equipment. All indications are that decisions as to which audiovisual devices to purchase, install, and use have been based on administrative and organization requirements and on considerations of cost, availability, and user preference, not on evidence of instructional effectiveness.

The author cites basic defects in the research reports reviewed for this study, raises significant questions left unanswered through such efforts, and offers suggestions for future media-related research intended to provide the answers to important questions. Typical of the latter was: Which media, or which learner and which media characteristics, should be compared?

6:1.0/70

Technology and the Management of Instruction, Robert Heinich, 198 pp. (Association for Educational Communications and Technology, Washington, D.C.).

This is a critical and exhaustive synthesis and discussion of possible bases for modernizing the paradigm pertaining to "instructional technology" and its relationship to the total field of education. The author forecasts and argues the need for various changed roles of instructional technology practitioners, and advocates increased attention to teacher roles under systems of mediated instruction.

2.0 TRENDS

6:2.0/77

Communications Technologies in Higher Education: 22 Profiles, Ruth Weinstock, ed., 157 pp. (Communications Press, Washington, D.C.).

A series of 22 in-depth analyses of promising innovative applications of "instructional technology" in college teaching, each of these essays appeared earlier as a separate article in the periodical, *Planning for Higher Education*. Largely television applications were reported from Chicago TV College, Oregon State University (Corvallis), the University of Southern California, Winthrop College (South Carolina), Florida Atlantic University (Boca Raton), and Colorado State University (Fort Collins). Other more varied applications of instructional technology processes and media systems are described for Golden West College (Orange County, California), Stephens College (Columbia, Missouri), Brigham Young University (Provo, Utah), William Rainey Harper College (Palatine, Illinois), and College at Oswego (State University of New York). Instruction through various types of computer applications are described for New York Institute of Technology and Dartmouth University.

An emphasis upon instructional development in connection with media utilization is described for Syracuse University (with its Center for Instructional Development), the Chicago Circle Campus of the University of Illinois; and the New Hampshire College and University Council—the latter a 13-institution consortium of relatively small colleges (all but one of the State's accredited four-year institutions of higher learning). Two other experimental programs described place heavy emphasis upon instructional technology—one at the British Open University and selected aspects of the instructional programs and the other at a number of institutions represented at a conference on non-traditional educational practices sponsored by the University of Mid-America. Two general articles—one on games and simulations applications to college teaching and another on telephone teaching (at University of Wisconsin—Extension)—round out the factual presentations.

6:2.0/76

Media in Higher Education: The Critical Issues—Ideas, Analysis, Confrontation. Gerald R. Brong, ed., 111 pp. (Information Futures, Pullman, Wash.).

This is a collection of papers associated with a conference-seminar offered by the publisher, with the primary goal of "exposing and defining issues critical to the media field in higher education." Specific issues addressed at the conference include: (1) Should higher education medias or educational technology programs be merged with the library? (2) Who should direct them? (3) What is the "fair share" of the budget for the media program? (4) What are essential services to be provided by institutional audiovisual programs? (5) How can college and university faculty members be induced to make more and better use of audiovisual resources? (6) If budget cuts are required, what part of the educational technology or media program can be eliminated? (7) Can the critical issues facing higher education be dealt with successfully, at least in part, through interventions of instructional or educational technology?

Individual papers in this compendium treat aspects of the foregoing questions: Margaret Chisholm (University of Washington) defines media programs through identification and discussion of what they accomplish. Gerald Brong (Washington State University) focuses on critical questions regarding media program roles in improving teaching and learning in contrast to "providing services." Wesley Meierhenry (University of Nebraska) uses an historical approach to develop reasons why, in the past, higher education media programs have not been more successful. David Crossman (University of Pittsburgh) and Charles Vlcek (Central Washington State University) assess the weaknesses and strengths of "combined" or "integrated" library/media programs in higher education. John Davis (Washington State University) and Don Riecks (University of Washington) examine the pros and cons of centralization vs. decentralization of college and university media services. Brong also presents a paper on processes of systematic budget planning for such programs. Amo DeBernardis (Portland Community College) offers an heuristic approach to making media programs "work" and achieve their goals.

6:2.0/75

Computers and the Learning Process in Higher Education, John Fralick Rockart and Michael S. Scott Morton, A Report Prepared for the Carnegie Commission on Higher Education, 356 pp. (McGraw-Hill Book Co., New York).

A recent update of fact and opinion regarding the future of computers in instruction in higher education, this report is concerned chiefly with three questions: (1) Is the instructional use of computers cost-effective? (2) In what specific ways will the computer affect the learning process in higher education? and (3) How should faculty members approach the selection of computer-based instruction types for particular instructional purposes and programs?

The authors arrive at several conclusions regarding educational technology in higher education. They deduce that we are now engaged in an upswing of computer technology, exemplified in part by reduced costs of equipment and software service and the coming of the mini computer. Improved use of television as a teaching/learning tool is occurring, chiefly because of improved capabilities for "live" (two-way, feedback-type) operations. Improved access to university libraries is obtained increasingly through various microfiche-like non-paper means.

The authors' model of the learning process leads them to conclude that no single technology should be expected to serve the learner in all stages of learning—or to and through all types of materials to be learned—and that, therefore, the uniquely advantageous qualities of each should be studied and evaluated. They also conclude that in the past too much attention had been given to Skinnerian-type computer-assisted instruction. An area of considerable promise in the application of technology to higher education is seen for various types of "enrichment activities" (gaming, problem solving, simulating); the authors foresee these activities as enabling students to integrate and test knowledge gained. A corollary finding, in this respect, is that "the real impact of the new technology will for the most part be adding to, rather than replacing, current learning mechanisms."

6:2.0/72

The Fourth Revolution: Instructional Technology in Higher Education, A Report and Recommendations by the Carnegie Commission on Higher Education, 110 pp. (McGraw-Hill Book Co., New York).

A study of apparent and potential effects of the technology of electronic communications and data processing upon American higher education, this report summarizes experiences with the new technology through 1972, concluding that: (1) its applications in higher education have been slower in coming and they have cost more money than might have been anticipated, and (2) applications that have been made are more often additions to rather than replacements of older approaches. The report predicts that, by the year 2000, "a significant portion of instruction in higher education may be carried on through informational technology—perhaps in a range of 10 to 20 percent." Various advantages of technological applications in instruction are cited for students and teachers, as well as for financing authorities.

Other predictions suggest that, in the future, instructional technology will: extend the range of adult education and generally off-campus students; enable students of smaller campuses to share instruction and resources of larger cooperating institutions; and increase the stature and significance of libraries as foci of campus learning. New professions of "multimedia technologists" are also predicted, as is making college students more aware of technological tools (computers, for example) before they begin college training. Prospective teachers (especially at the college level) will need to be trained to make optimum use of this new technology. Trade-offs will be made among college and university curriculum offerings, building requirements, staff and support costs, and other budgetary elements. The new technology will lead toward increased centralization of related services and resources on single campuses and to more cooperative efforts among institutions on regional and even national bases, including, especially, the cooperative production and distribution of applicable software. Specific elements of instructional technology cited as likely to receive greatest impetus and acceptance in higher education in the future were: cable TV, video-cassettes; computer-assisted instruction; and learning kits for independent study. The Commission recommended establishment of an independent group "to make assessments of the instructional effectiveness and cost benefits of currently available instructional technology" and to publish its findings for the guidance of higher education.

6:2.0/70

To Improve Learning: An Evaluation of Instructional Technology, Sidney G. Tickton, ed., Vol. 1: Part One: "A Report by the Commission on Instructional Technology"; Part Two: "Instructional Technology: Selected Working Papers on the State of the Art"; Vol. 2, Part Three: "Instructional Technology—Theories and General Application"; Part Four: "Instructional Technology—Practical Considerations"; Part Five: "Instructional Technology—Implications for Business and Industry"; Part Six: "Instructional Technology—Economic Evaluations." Vol. 1, 441 pp. Vol. 2, 1096 pp. (R.R. Bowker Co., New York).

A monumental review of the state of instructional technology at the beginning of 1970, this influential book attempts to identify the status and potential of the entire field—old, new, and future; mechanical and electronic; automated and cybernated—from innovations in print technology to computers; from classrooms to multimedia centers. Many discussions bear directly upon higher education. The chief purposes of the study were "to test the belief that technology, properly supported and wisely employed, could help to meet some of the nation's most pressing educational needs . . . and, if justified, to recommend to the President and to the Congress specific actions to provide for the most effective possible application of technology to American education."

The Commission concludes that technology could bring about increased instructor productivity while at the same time make learning far more immediate and relevant, more individual, more powerful, and more scientific than it is. Six recommendations made are that: (1) the National Institutes of Education (NIE) be established to provide educational research leadership and activity; (2) a National Institute of Instructional Technology be established; (3) leadership be taken through that institution to search out, organize, and prepare for distribution appropriate media to improve education; (4) demonstrations be given on the value of instructional technology generally, with a number of projects to be supported by the Institute for Instructional Technology in selected communities or institutions; (5) support and stepped-up research be instituted to train practitioners to make better use of instructional technology; and (6) a closer liaison than at present be developed between industry and education to advance the effectiveness of instruction through instructional technology.

6:2.0/68

New Media and College Teaching. James W. Brown and James W. Thornton, Jr., eds., 183 pp. (Association for Educational Communications and Technology, Washington, D.C.).

Older but still useful, this is a survey of innovative teaching uses of new media in over 600 U.S. colleges and universities. A chapter on "Instructional Functions of New Media (by Prof. C. R. Carpenter, then of Pennsylvania State University) stresses the "systematic approach" including the following steps or procedures: (1) select content or stimulus materials, (b) organize course content, arrange it in optimum order and sequence for learning, (c) produce, transform, and pattern the content into suitable modes and forms for student access, (d) test the effectiveness of materials prior to large-scale use, (e) present and regulate interactions of students with instructional materials and learning experiences, (f) assess or evaluate student reactions, performances, and achievements, and (g) use such information as a principal basis for revising and improving instruction, including the instructional materials used for the purpose.

Subsequent chapters of the report present case reports of college and university uses of instructional television, films, listening laboratories, audiotapes, programmed instruction, mediated self-instruction, computer-assisted instruction, special multimedia facilities, large transparencies for overhead projection, simulated experiences, and telephone techniques.

The study concludes by stressing several matters regarding planning uses of new media in higher education. First is a call for caution to avoid pitfalls of "gadgetry" with new media facilities and resources—specifically of allowing instructional ends to be compromised by *means* available to achieve them. A second conclusion is the need to recognize the importance of a concentrated effort nationally and within regions and single institutions to develop software materials for use in higher education. A third is that physical facilities required for instructional applications of new media were frequently inadequate. Faculty development programs are recommended as essential elements in efforts to modernize instruction. Finally, the study reiterates an earlier statement to the effect that the *systematic approach to instruction* offers "significant promise for the attainment of economies of effort and of instructional time in higher education."

3.0 INSTRUCTIONAL DESIGN AND DEVELOPMENT

6:3.0/77

Instructional Design: A Plan for Unit and Course Development, 2nd ed., Jerrold E. Kemp, 162 pp (Fearon Publishers, Belmont, Calif.).

This book presents in succinct yet understandable form the significant elements of instructional design as applied, especially, but not exclusively, to courses in higher education institutions. The book assigns crucial importance to the following components of the instructional design process: (1) goals, topics, and general purposes; (2) learner characteristics; (3) learning objectives; (4) subject content; (5) pre-assessment of learner status with respect to objectives and content; (6) teaching/learning activities and resources; (7) support services; and (8) evaluation. The third part of the book discusses the mechanics of planning and the desired interrelationships of individuals involved.

6:3.0/75

Instructional Development for Individualized Learning in Higher Education, Robert M. Diamond, et al., 189 pp. (Educational Technology Publications, Englewood Cliffs, N.J.).

This useful handbook outlines those specific procedures (as opposed simply to theoretical or hypothetical examples) necessary to achieve successful academic innovations in higher education. It provides first a frame of reference for "individualization", identified as the essence of the recommended curriculum design process and recognized as comprised of flexible time frames. The book also presents varied opportunities for student diagnosis, remediation, and exemption; optional content study; alternate forms and flexible times for the evaluation of students; and options with respect to locations in which instruction and learning experiences are conducted; and alternate forms of instruction, including independent learning materials and instructional modes. Additional chapters deal with ways to develop a climate and an organization plan for facilitating academic change, generating and selecting projects to effect change, and identifying objectives and structuring instructional sequences for them. The book also includes a step-by-step procedure for designing, implementing, revising, selecting media for, phasing out and evaluating academic innovation projects. Other topics discussed include determination of cost-effectiveness and accountability. A final chapter deals with "lessons learned"— problems of implementing academic innovations.

Included in the appendix are helpful materials dealing with copyrighting policies and the sharing of royalties on innovative college— and university-developed programs and resources, as well as an analysis of requirements and uses of various types of independent learning facilities.

6:3.0/74-1

Principles of Instructional Design, Robert M. Gagné and Leslie J. Briggs, 270 pp. (Holt, Rinehart, and Winston, New York).

A manual of the theoretical principles underlying systematic curriculum design, along with procedures required to accomplish it, this book includes arrangements of "topics, courses, and lessons of instruction, in a variety of subjects, based upon principles of human learning and performance analysis."

This book explains clearly basic design considerations pertaining to: (1) outcomes of instruction, (2) intellectual learning skills and strategies, and (3) types and varieties of learning—information, attitudes, motor skills. Under the heading of "designing instruction" consideration is given to: (1) defining performance objectives, (2) designing instructional sequences, (3) identifying instructional events, (4) designing individual lessons, and (5) assessing student performance. A final section of the book deals with "instructional systems" under such categories as individualized instruction, designing instructional systems, and evaluating instruction.

6:3.0/74-2

The Keller Plan Handbook: Essays on a Personalized System of Instruction, Fred S. Keller and J. Gilmour Sherman, 99 pp. (W. A. Benjamin, Reading, Mass.).

This series of co-authored papers is intended to inform individuals about characteristics and procedures used in the "personal system of instruction (PSI)". Also known as the Keller Plan, it has within the past 10 to 15 years gained considerable standing as an improved method of teaching, especially in higher education. Various chapters deal with the history of PSI and its characteristics as a basic system—its logistics, reinforcement theory, and current status in the United States and Brazil. Finally, the book cautions about use of the system for those who may otherwise expect too much of it.

6:3.0/74-3

Modular Instruction: A Guide to the Design, Selection, Utilization, and Evaluation of Modular Materials, James D. Russell, 142 pp. (Burgess Publishing Co., Minneapolis, Minn.).

This somewhat unique approach to learning recognizes and accommodates individual differences and learning abilities of students. The book is addressed to classroom teachers and gives considerable emphasis to the development, testing, and use of so-called "modules"— small units of learning. It discusses the fundamentals of modular instruction; selection and design of modules, specification of objectives and construction of criterion items; and analysis of learner characteristics and specification of entry behaviors. The book also looks at ways to sequence instruction and select media for it, to handle student tryouts of modules, and to evaluate, utilize, and implement modular instruction generally.

6:3.0/72

The Audio-Tutorial Approach to Learning Through Independent Study and Integrated Experiences, S.N. Postlethwait, J. Novak, and H.T. Murray, Jr., 184 pp (Burgess Publishing Co., Minneapolis, Minn.).

This is a detailed analysis of the unique contributions of and ways to organize and manage audio-tutorial instructional programs, first employed on a broad scale in botany courses at Purdue University under the direction of Dr. S. N. Postlethwait. This book provides essential information for those interested in restructuring courses generally to take advantage of the audio-tutorial approach, with its independent study sessions (ISS), general assembly sessions (GSS), integrated quiz sessions (IQS), and other activities. Specific requirements regarding physical facilities are included, as are details of program operation such as the deployment of personnel and the preparation of tapes, films, and printed materials. Suggestions for the development of various types of minicourses involving a modular approach to learning and the preparation of materials used with them are also included.

4.0 STANDARDS AND GUIDELINES

6:4.0/77-1

College Learning Resources Programs, 80 pp. (Association for Educational Communications and Technology, Washington, D.C.).

Developed over a period of years, this is a set of recommendations on how to plan learning resources services and functions in four-year colleges and universities by a special task force of the Association for Educational Communications and Technology (AECT). This study outlines reasons for and guidelines to achieving improved organization of technological communications services (with alternative administrative patterns) in institutions of higher education. Additional special program facets given attention include: (a) instructional development; (b) diffusion/adoption of educational innovations, particularly those of a technological nature; (c) local production of media software; (d) telecommunications facilities and services; utilization of technological media, facilities, and equipment; (e) design of suitable required facilities; and (f) approaches to the budgeting of learning resources programs.

6:4.0/77-2

The Economics of New Educational Media: Present Status of Research and Trends, Educational Methods and Techniques, 200 pp. (United Nations Educational, Scientific, and Cultural Organization, Paris).

Prepared with the assistance of the International Council for Educational Media (ICEM), this booklet describes the current status of and processes used to determine costs and evaluate results of using various new media (radio, television, programmed instruction, learning resource centers, and others) in education. The findings came, first, from an analysis of some 200 studies conducted in various parts of the world. Extensive bibliographies and a number of abstracts are provided, as are detailed case studies analyzing costs for Mexico's Radioprimeria, Nepalese instructional radio, El Salvador's ITV system, Mexico's Telesecundaria, programmed instruction projects in Central Africa and France, and a group of West German audiovisual centers.

6:4.0/77-3

Criteria for Planning the University Learning Resources Center, Irving R. Merrill and Harold A. Drob, 96 pp. (Association for Educational Communications and Technology, Washington, D.C.).

A study conducted for the University of California to identify essential criteria for planning university learning resource centers in 1970, this book cites the advantages of learning resource centers in higher education, drawing evidence from published studies and reports. Another chapter deals with administrative organization and the recommended status of learning resource centers in universities. Criteria for staff and space requirements are provided with specific suggestions on how they apply in actual university situations. Planning and administering the budget of the university learning resource center are reviewed, along with ways and means of encouraging faculty involvement in such planning. Special provisions and pros and cons of "recharging" (i.e., of charging departmental budgets for services rendered, rather than of paying for them from the central learning resource center budget) also are reviewed. The study concludes that: (1) the director of learning resources should report to the chief academic officer, (2) he or she should be a professional member of the faculty, qualified according to high standards of academic preparation and experience, (3) at least one consultant in instructional development should be employed full-time on the learning resources center staff, (4) the number of staff and of square feet devoted to the learning resource center should be determined through use of procedures and standards developed in the study, and (5) the budget of the learning resources center should be developed according to a programming-planning-budgeting-evaluation (PPBE) or equivalent system. Other recommendations and areas seriously needing appropriate criteria are also identified.

6:4.0/75-1

The Learning Center: A Sphere for Nontraditional Approaches to Education, Gary Peterson, 146 pp. (Shoe String Press, Hamden, Conn.).

This book outlines plans and procedures college and university adminstrators and faculty should implement in establishing and maintaining a "learning center" which provides an innovative combination of four academic-related services: (1) a multimedia library, (2) audiovisual services, (3) certain nontraditional services, and (4) instructional development assistance and leadership. This book analyzes how these elements relate and interact and build synergistically upon each other, all with special attention to providing for individual differences and traits in faculty, students, and administrators involved. Special attention is also given to processes involved in the management of academic change.

6:4.0/75-2

Improving Instructional Productivity in Higher Education
Shelley A. Harrison and Lawrence M. Stolurow, eds. State University of New York at Stony Brook, 272 pp. (Educational Technology Publications, Englewood Cliffs, N.J.).

A collection of essays from a Symposium on Instructional Productivity, this volume explores a "systems approach to" and behavioral objective of technological systems. The Symposium, conducted in 1973 by the Office of Education and the National Institute of Education, focused on the problems created by the increasing demands of a diverse group of students for a varied educational experience. Technological systems, termed the "fourth revolution" in education by the Carnegie Commission on Higher Education, has the potential to meet the needs of these students if certain challenges can be met by planners.

These challenges include diminishing availability of fiscal resources, an increasingly diverse student body and the need to tailor programs to new students. (For further information on the resource question see Topic 18: Resource Allocation and Budgeting, particularly, 18:2.0/75 "Constrained Ratio Approach to Allocating Instructional Resources" by William B. Simpson).

The Symposium addressed these challenges by segmenting the presentation into three sections: Group and Bounded Learning Environments; Individualized, Bounded Learning Environments; and Personalized, Open Learning Environments. The presentations include lively, provocative discussion of many programs being implemented on campuses today.

Of particular interest to the planner will be the keynote addresses, notably: "Learning, Technology, and the Potential Increase of Productivity in Higher Education" by Robert Filip. He discusses quality and quantity of productivity that higher education should seek in the context of goals.

6:4.0/72

Guidelines for Two-Year College Learning Resources Programs,
12 pp. (Association for Educational Communications and Technology; American Library Association of College and Research Libraries; and American Association of Community and Junior Colleges, Washington, D.C.).

This booklet contains qualitative guidelines prepared jointly by three nationally-recognized organizations, guidelines which describe adequate two-year college learning resources and services. The booklet includes recommendations that: (1) the document be used as a criterion base for information, self-study, and planning but not as a base for minimal standards; (2) applications of standards be governed by the purposes and objectives of each college using them; and (3) administrative organization patterns for learning resources programs grow out of the milieu of each institution rather than being superimposed from without.

This booklet also suggests that: (1) each college provide for a learning resources program; (2) such programs be guided by a specific set of purposes and objectives; (3) they provide a variety of services as integral parts of the learning process; (4) such programs cooperate in the development of area, regional, and State networks, consortia, or systems. With regard to organization and administration, the guidelines recommend that: (1) responsibilities and functions of the learning resources unit be clearly spelled out; (2) Learning Resource Center (LRC) personnel be involved in all areas and levels of academic planning; (3) advisory committees aid in evaluating and extending LRC services; and (4) administrative and budget planning authority be clearly defined and cooperative relationships of units within the same districts be maintained.

With respect to budgeting, the guidelines recommend that: (1) the LRC program be regarded as an element of program planning; (2) the LRC budget reflect campus-wide instructional materials needs; (3) to the extent possible, purchases of materials be exempted from restrictive annual bidding procedures and be made, instead, throughout the year; (4) equipment purchases be made on a systems approach basis; and (5) cooperative purchasing be employed where possible.

Other instructional system components identified in the guidelines included those of: (1) staff—with emphasis upon faculty status, benefits, and obligations; (2) facilities—with attention to the appropriate cooperation of LRC specialists in their design and management; (3) instructional equipment; and (4) instructional materials—including those purchased from commercial sources and those produced locally.

6:4.0/64

Learning Resources for Colleges and Universities. Fred F. Harcleroad, Principal Investigator, 146 pp. (California State University, Hayward).

Although completed some years ago, this study is still valuable for individuals planning higher education library/educational media programs. The report was designed for a proposed library-audiovisual facility for

California State University, Hayward. Included first are basic criteria for planning learning centers, with discussions of (a) methods of instruction, (b) students and their use of learning resource facilities, (c) faculty needs and interests, and (d) other planning factors, such as intended uses by the community. Various organizational plans are suggested. A second chapter deals with "audiovisual services" in relation to (a) their basic functions, (b) general structure, (c) procurement, production, and distribution services, and (d) combined facilities.

An evaluation and independent study center arrangement is treated in a third chapter, with stress upon measuring learning, especially in connection with independent study. Chapter IV presents recommendations regarding various materials production services, including equipment and rooms and other physical facilities required. Chapter V presents the role of library services in higher education institutions. Attention is given to library automation procedures and their implications, modular uses of study carrels, special collections, and various special facilities. A final chapter presents opinions regarding eventual roles of digital computers in a college or university learning resources center, including those of simulation. Two appendices deal with the recommended relationships of "library" and "audiovisual" services in a college or university and details of recommended space requirements for the facility envisioned for California State University at Hayward.

5.0 DATA SOURCES

6:5.0/77

Educational Technology: Definition and Glossary of Terms, Vol. 1, AECT Task Force on Definition and Terminology, 365 pp. (Association for Educational Communications and Technology, Washington, D.C.).

This book defines all aspects of instructional and educational technology. It defines the field from several standpoints—theoretical, professional, and historical. The intellectual base of the field is also examined; practical applications of educational technology and their effects upon institutional organizational structures are discussed; and desirable characteristics of certification training criteria and programs are identified. Concluding chapters deal with the role of the professional association, the societal context of the profession, and an evaluation of the field and the role of the professional in educational technology. The second half of the book presents detailed definitions of terms applicable to theory, research, design, production, evaluation-selection, materials, devices, and techniques associated with the field.

6:5.0/75

Educational Technology: A Handbook of Standard Terminology and a Guide for Recording and Reporting Information About Educational Technology: Handbook X, Ivan N. Seibert, 276 pp. (U.S. Department of Health, Education, and Welfare, Office of Education, Washington, D.C.).

This National Center for Education Statistics (NCES) publication reflects an effort to identify and to codify taxonomically concepts, terminology, and definitions, and to suggest units of measure related to educational/instructional technology. It is designed to help persons involved in gathering, compiling, exchanging, and interpreting data relating to the application of technology to instruction. These activities are aided by use of the many standardized terms included in the handbook.

Chapters deal with: defining educational technology; classification of educational technology terms; and definitions and units of measure for classified terms.

6:5.0/A

Educational Media Yearbook, James W. Brown, ed., 500 pp. (R.R. Bowker and Company, New York).

An annual review of "the state of the art" in the field of educational media, this yearbook provides planners in higher education with in-depth information regarding media developments in colleges and universities, research and development centers, government agencies, foundations, as well as field reports from several hundred organizations, associations, and nonprofit foundations. Trends and projections are also provided for the educational media industry. Detailed reviews of existing master's and doctoral programs for instructional technology, library and information science, and broadcast communications in U.S. institutions of higher learning also are included. Of special interest to planners are the yearbook's several "mediagraphies" which list reference tools, media-related periodicals and newsletters, media about media, data bases, and other aids to data retrieval in the field.

7

Educational Opportunity

K. Patricia Cross

* * *

Extending postsecondary educational opportunity to underrepresented segments of the population has been a high-priority goal of postsecondary education for several decades, but the flow of literature has been particularly heavy in the 1970's–the decade covered in this bibliography. In 1977 alone nearly 200 documents were indexed under the term "equal education" in the Educational Resources Information Center System (ERIC). In addition, thousands of documents address the needs of particular target groups such as ethnic minorities, women, and adults. The prolificacy is understandable, however, for literature on educational opportunity is quickly rendered obsolete by progress, new concerns, knowledge and experience.

Educational opportunity is usually discussed in terms of "target groups" that have been identified as underrepresented in education enrollments. Such identification is usually accomplished through demographic or U.S. Bureau of the Census descriptors such as age, sex and race–although a good argument could be made that defining target groups on the basis of educational needs would facilitate planning. It might

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be more useful, for example, to define as target groups learners who share common need for off-campus locations or special help with basic skills, than to attempt to address the quite diverse educational needs represented within demographic groupings such as adults or women. The category "women," for example, becomes relatively useless for planning purposes when it must address the educational needs of re-entry women under the same label as women fully occupied with home and family.

At the present time, however, most of the literature on educational opportunity addresses the needs of the populations that have been excluded from educational opportunity by traditional attitudes and practices. The target groups commonly identified are: adults; ethnic minorities; handicapped students; low income students*; underprepared students; and women.

Of these six target groups, three are demographically defined: adults, ethnic minorities, and women; and three are defined in ways that make it somewhat easier to determine educational needs: handicapped, low-income and underprepared. Despite some problems with these groupings for educational planners, this bibliography will follow accepted patterns of considering the topic of educational opportunity in terms of previously excluded or underrepresented target groups.

The question that is best addressed by this selected list of references is: What can planners do to facilitate access to educational opportunity for particular population groups that have been underrepresented in higher education in the past? The phrase "access to educational opportunity," however, will be broadly interpreted to mean more than "access to college". In the case of underprepared students, for example, selected entries will include information about remediation and instruction designed to open full educational opportunities to these students.

General Issues. Dealing mainly with access, this section defines educational opportunity and provides foundation and perspective with which to approach the target groups of the remaining subtopic areas. The volumes represent the position of administrators as they face the complex issues of access and opportunity.

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*Although low income students are a common target group for educational opportunity, their financial needs are addressed under Topic 21: Student Financial Assistance, and therefore will not be included here.

Adults. The interest in adult learning has resulted in a torrent of literature in recent years. It is a "hot topic" not only in this country, but throughout the world. The literature comes under a variety of labels (adult education, continuing education, recurrent learning, lifelong learning, non-traditional study); from a variety of disciplines (education, psychology, gerontology, demography, health); it reflects concerns across a broad spectrum of social issues (re-entry women, mandatory education for re-licensure, aging); it appears in the literature of numerous sponsors of educational services (libraries, museums, industry, media); and it is approached from different perspectives (statistics on demography, research and theory on developmental stages, State and national legislation, marketing surveys.) It is extremely difficult to select a basic reading shelf for planners concerned about learning opportunities for adults. Volumes annotated here emphasize a synthesis of information from primary sources.

Minorities. The literature on educational opportunity for ethnic minorities over the past decade has consisted largely of statistical surveys showing the progress—or lack of progress—of various ethnic minorities in attaining access to higher education. There are few good studies of the adjustments necessary or the progress made once access has been achieved. At this time, the literature on blacks is more adequate, both with respect to number of studies and breadth of topics addressed than that on American Indian or Hispanic groups.

Other subtopics related to minorities that will be of interest to planners are Topic 1: Admission/Articulation/Retention and Topic 20: Student Characteristics and Development.

Handicapped. The key term appearing in this subtopic is Section 504: the new law dealing with access to educational programs for the handicapped. Established in 1973 by the Rehabilitation Act, Section 504 has implications for all institutions of higher education receiving Federal funding. Compliance with this act entails evaluation of existing programs in order to accommodate the needs of the handicapped. Practical suggestions for implementation of this act are available in these volumes.

Underprepared. Given the high visibility and general state of public concern about poorly prepared college students, the lack of helpful material in this area is hard to understand. Unfortunately, there is a general tendency to equate ethnic minorities with underprepared students, and thus there is some overlap between these two categories in the bibliography. Most of the literature on underprepared students addresses the issues of access (open admissions), remediation (instructional methods and counseling), retention, and to a minor extent, the critical issue of motivation.

Women. This subtopic contains works that address some of the problems of women in higher education, but few works deal directly with State and Federal level planning for equal access. Entries annotated here describe the current status of women in education and the future expectations of their participation.

TOPIC ORGANIZATION

7: Educational Opportunity

- **1.0** General Issues
- **2.0** Adults
- **3.0** Ethnic Minorities
- **4.0** Handicapped
- **5.0** Underprepared Students
- **6.0** Women

1.0 GENERAL ISSUES

7:1.0/77

Improving Equity in Postsecondary Education: New Directions for Leadership, Judith Gappa, 50 pp. (National Institute of Education, Washington, D.C.).

This small booklet is the final report of an invitational workshop on equal opportunity sponsored by the National Institute of Education. Because it is the report of a conference in which most of the participants represented underserved constituencies, it is short on data and long on feelings. But that should provide a useful perspective to planners who occasionally need to remind themselves that equity is a human as well as a statistical issue.

Part I reviews the current status of equity in postsecondary education with regard to student access and treatment, employment, federal impact, and the interchange between postsecondary education and society.

Part II attempts to chart future directions with suggestions for providing leadership, improving communications and understanding among individuals and groups, and suggesting new initiatives for federal legislation. A rather long list of research questions, and perhaps, most usefully, an "action agenda" for leaders in postsecondary education conclude this helpful overview.

In general, planners reading this booklet probably will learn nothing new about equity, but instead will remind themselves of something they knew was important but had forgotten.

7:1.0/73

The Sourcebook for Higher Education, Warren W. Willingham, 481 pp. (College Entrance Examination Board, New York).

This volume represents an ambitious undertaking begun when the literature on "access to college" began to proliferate beyond anyone's capacity to keep up. Warren W. Willingham has annotated more than 1,500 "selected" references, with emphasis on the access literature of the late 1960's.

Annotations are written to give the reader "an understanding of what each publication is about and why it is important in relation to the access process." A comprehensive taxonomy with literature keyed to taxonomy categories provides the basic classification for annotations, but an author index and a subject index add to the ease of using this volume as a handy reference. Planners can find an adequate description of almost any piece of significant writing on access to higher education up to the Spring of 1971 in this volume.

7:1.0/70

Free-Access Higher Education, Warren W. Willingham, 240 pp. (College Entrance Examination Board, New York).

State planners seeking to extend educational opportunity by making educational resources more widely available should find this book useful. The author defines free-access higher education in terms of three factors: annual tuition of $400 or less, at least one-third of the entering freshman class composed of high school graduates from the lower half of their class, and geographical location within a forty-five minute commuting distance. The author identifies such colleges and then determines on a State by State basis (as of 1968) what percentage of the population had access to such colleges. The percentage of the population within commuting distance of a free-access college ranges from a low of zero in Maine, Indiana and Nevada to a high of 87 percent in Connecticut, 68 percent in North Carolina and 65 percent in Mississippi. Free access to higher education nationally is graphically illustrated by means of a map of the United States showing areas served by free-access institutions and by tables showing countrywide comparative levels of accessibility, population and estimates of additional colleges required.

Some of the variation in access results from the use of multiple criteria defining free-access higher education—it appeared to be largely sponsored publicly and to be achieved primarily through community colleges, technical institutions and branches of public universities.

Although the figures are over 10 years old, the discussion and analyses related to access to college are still relevant. A related study by Richard I. Ferrin, *A Decade of Change in Free-Access Higher Education,* also published by the College Entrance Examination Board, compares free-access data for 1958 and 1968 to determine the extent of change that has taken place over the past decade. During the period the number of free-access colleges—almost all public—increased from 538 to 789. In those areas where 30 percent of the population lived within commuting distance of a free-access college in 1958, the percentage increased to 42 in 1968.

See also: 15:1.1/74-2 A Digest of Reports of the Carnegie Commission on Higher Education, Carnegie Commission, 399 pp. (McGraw-Hill Book Co., New York).

Of the 21 reports abstracted, eight are related to equal opportunity: "Quality and Equality" (1968 and 1970); "A Chance to Learn" (1970); "Open Door Colleges" (1970); "Less Time, More Options" (1971); "From Isolation to Mainstream" (1971) (Negro Colleges); "New Students and New Places" (1971); "Opportunities for Women in Higher Education" (1973); and "Toward a Learning Society" (1973).

2.0 ADULTS

7:2.0/79

Toward Lifelong Learning in America: A Sourcebook for Planners. Richard E. Peterson, K. Patricia Cross, Susan A. Powell, Terry W. Hartle, Mark A. Kutner, and John R. Valley, (Jossey-Bass, San Francisco).

This volume, which will be available in early 1979, is designed specifically for planners and is probably the single most valuable source of information about the education of adults and the phenomenon of lifelong learning.

In the words of the authors:

> . . . the basic purposes of the volume, after first suggesting 'lifelong learning' as a conceptual framework for fashioning new sets of services to better aid continuing learners, are to afford broad-perspective planners: (1) a view of many of the potential partners in broadly conceived cooperative lifelong learning enterprises; (2) an array of facts about the motivations of adult learners, their perceptions about barriers to further learning, and related matters; and (3) an overview of the kinds of policies and programs being actively considered, if not yet implemented, by the federal and various state governments. This document is not a policy study; it contains no recommendations. It is, instead, akin to an information base that can, hopefully will, *inform* planning processes toward the ends of intelligent policy and effective programs.

The *Sourcebook* consists of six chapters. The first by Richard E. Peterson presents a typology of the broad range of learning resources available to people throughout their lives from schools, industry, professional associations and trade unions, government, community organizations, newspapers, television, etc. The author puts planning for formal educational programs in perspective by showing them as one facet of the emerging learning society.

Chapter II by K. Patricia Cross is a synthesis of data about adult learners from some 30 State and national surveys of adult participation and interest in various learning activities. The consistency of findings across studies makes it possible to present a generalized profile of the interests and needs of adult learners.

Chapter III by Terry W. Hartle and Mark A. Kutner summarizes Federal programs related to lifelong learning and speculates on the Federal Government's role.

Chapter IV by Susan A. Powell provides a review of recent activities and plans in the States as revealed by documents from State planning offices and commissions. Case studies of four States are included.

Chapter V by John R. Valley discusses adult learning resources provided by local organizations and agencies—museums, libraries, counseling and information services as well as non-traditional programs devised by colleges and universities.

Chapter VI is a compendium of sources of further information—directories, advisory councils, clearinghouses, journals and newsletters, abstracts of current research projects and services, and relevant legislation.

This book is just what the title indicates—a sourcebook for planners. Although it will be rather quickly dated because of the rapid changes taking place in planning for adult learning, it will provide an excellent background of information. It will not recommend actions, but it can put planners in touch with a network of useful resources.

7:2.0/78

Lifelong Learning and Public Policy, Lifelong Learning Project, 57 pp. (U.S. Department of Health, Education, and Welfare, Washington, D.C.).

This is the report of the Lifelong Learning Project authorized by Title I-B of the 1976 Higher Education Act, popularly known as the Lifelong Learning Act. The project, which was under the auspices of the Assistant Secretary for Education of HEW, commissioned studies, sponsored conferences, conducted public briefings, and facilitated the exchange of information among major lifelong learning efforts. The project's primary goal was to arrive at recommendations for the Federal role in lifelong learning. The report spells out what the Federal Government could do to improve and make more equitable learning opportunities for adults at Federal, State, and local levels.

This report, which was transmitted to the Congress on February 10, 1977, takes a broad view of the learning society, recommending complementary roles for Federal and State governments in cooperation with local providers of educational opportunities. It calls on the Federal Government for program coordination, research, and information dissemination to facilitate adult learning in a range of formal and non-formal settings, including universities, community colleges, public schools, workplaces, community centers, public libraries, museums, and public broadcasting. A supporting rather than a leadership role is recommended for government. "Federal, State, and local policy should be directed toward supplementing, not supplanting, the efforts of local providers. Policymakers should emphasize three kinds of support: developing services for the currently unserved, developing mechanisms which link learners to the appropriate resources, and developing planning and coordinating strategies which encourage collaboration rather than competition among local providers."

The report provides special analyses and recommendations for increasing the learning opportunities for four groups of learners: workers, urban youth, women, and older adults. An Appendix provides references to some 30 special papers and reports addressing the special problems of these learner groups as well as a potpourri of other concerns.

Planners will find this brief report more useful for its broad perspective on social policy and the Federal role than for facts, data, or specific recommendations about how to plan for lifelong learning.

7:2.0/77-1

Policymaking Guidelines for Extended Degree Programs: A Revision, Leland L. Medsker and Steward L. Edelstein, 124 pp. (American Council on Education, Washington, D.C.).

This paperback booklet is concerned with the policy implications of extended and external degrees i.e., degree credits earned by unconventional or non-traditional means. The guidelines arose out of an intensive study of extended degree programs conducted by the Center for Research and Development in Higher Education of the University of California at Berkeley in 1974-75. The research findings were presented along with their implications for public policy at a policy seminar consisting of some 60 leaders in American higher education.

This publication is a culmination of the research and the policy seminar. It attempts to organize policy issues, to raise questions about what needs to be considered in designing, launching, and maintaining external degree programs, and to suggest guidelines for action.

Policy issues are organized into seven areas: clientele; program features and student services; staffing; organization; finance; planning, initiation, and evaluation; and extrainstitutional policies and priorities that are the primary responsibility of State and Federal agencies, accrediting bodies, regional associations, etc.

Each major policy area is introduced by a brief contextual background statement. The policy issues are then addressed as questions, and these questions are followed with relevant information and guidelines.

The booklet has a major yet unusual advantage of presenting the implications of research findings in the practical context of a policy seminar. It should serve as valuable background for planners as well as provide a checklist of considerations for planning external degree programs.

7:2.0/77-2

The Adult, Education, and Public Policy, Michael O'Keefe, 63 pp. (Aspen Institute for Humanistic Studies, Palo Alto, Calif.). (Also available on ERIC Microfiche: ED 145078).

This succinct report prepared by Michael O'Keefe, Deputy Secretary for Planning and Evaluation in the U.S. Department of Health, Education, and Welfare Office of Education, provides an appropriately cautious balance for the optimistic writings of the enthusiasts for lifelong learning. O'Keefe predicts the early saturation of growth in adult education. Indeed his interpretation of statistical trends suggests that the adult education boom of the early 1970's may already have peaked.

While admitting that better data and insights are needed in order to formulate adequate social policy, he sees critical problems already present in meeting the educational needs of groups currently underrepresented in educational activities, primarily undereducated and unemployed segments of the population, as well as groups such as ethnic minorities and women that are just beginning to gain equality in postsecondary educational opportunities. The author is basically supportive of programs that make education available to broader segments of the population, but he is cautious and even pessimistic about political and financial support for government spending for adult education.

This is an important thought-provoking booklet, with good, albeit somewhat dated, tabulations of adult participation in educational activities. O'Keefe uses data well to articulate the issues, and his discussion and recommendations reflect his understanding of the basic realities of planning.

7:2.0/74

Planning Non-Traditional Programs, K. Patricia Cross, John R. Valley and Associates, 253 pp. (Jossey-Bass, San Francisco).

This book presents the findings from a series of research projects sponsored by the Commission on Non-Traditional Study. Two chapters in particular are important since they are the result of large national studies on 1) the interests and experiences of adult learners and 2) the responses and programs of colleges and universities.

A survey questionnaire designed by Educational Testing Service researchers Carp, Peterson and Roelfs, has served as a model for many statewide needs assessments, and the data they report in Chapter 2 is still as good and as current as any reported since. Data were collected from a national probability sample of 2515 households, and respondents were asked about their backgrounds, interests, and participation in adult learning activities. The survey concluded that about one-third of the adults had received instruction in some subject or skill within the 12 months prior to the survey and over 70 percent (labeled would-be learners) were interested in further learning.

Chapter 3 reports the results of a nationwide survey conducted by researchers at the Center for Research and Development in Higher Education at the University of California at Berkeley regarding non-traditional institutional practices, most of which were designed to attract and serve adult part-time learners. Because of the rapid growth of non-traditional forms of education, these data are somewhat more dated than those on individual learning interests, but the survey remains one of the few that reveals the wide variety of responses of colleges and universities in planning for the special needs of adult learners.

Other chapters in the book discuss credit and accreditation issues and the use of technology and media; a final chapter contains an annotated bibliography.

7:2.0/73

Diversity by Design, Commission on Non-Traditional Study, 178 pp. (Jossey-Bass, San Francisco).

The Commission on Non-Traditional Study, chaired by Samuel B. Gould, was created in 1971 to study the emergence of non-traditional alternatives in higher education and to make recommendations for the future. This book is the Commission's final report and contains a thoughtful discussion of the issues along with 57 specific recommendations for action.

The definition of non-traditional education formulated by the Commission is now widely quoted, and provides a consistent focus for the recommendations.

> This attitude puts the student first and the institution second, concentrates more on the former's need than the latter's convenience, encourages diversity of individual opportunity rather than uniform prescription, and deemphasizes time, space, and even course requirements in favor of competence and, where applicable, performance. It has concern for the learner of any age and circumstance, for the degree aspirant as well as the person who finds sufficient reward in enriching life through constant, periodic, or occasional study. (p. xv)

The recommendations of this distinguished group of educators are as farsighted today as they were in 1973, and they are of considerable value to planners. They provide a conceptual framework as well as a checklist of considerations in planning for adult part-time learners. The 57 final recommendations can be summarized as follows:

1) Lifetime learning—basic, continuing, and recurrent—has a new appropriateness today and requires a new pattern of support.

2) Colleges and universities must shift emphasis from degree-granting to service to the learner, thus countering what has become a degree-granting obsession.

3) Faculty understandings and commitments must be reoriented and redirected, particularly through in-service developments, so that knowledge and use of non-traditional forms and materials will increase.

4) An organized effort must be made to promote intelligent and

widespread use of educational technology with special emphasis on programming for cable television, computers, videotape recorders, and possibilities of satellite broadcasting.

5) New agencies must be created to make possible easy access to information and develop better ways to disseminate it, to perform guidance and counseling services, and to be assessors and repositories of credit for student achievement.

6) New evaluative tools must be developed to match the non-traditional arrangements now evolving, so that accreditation and awarding of credentials will have appropriate measures of quality.

7) Cooperation and collaboration must be encouraged among collegiate, community, and alternate educational entities so that diverse educational programs and structures may evolve.

The above recommendations are the result of the four major activities of the Commission: 1) deliberations by Commission members themselves; 2) hearings and conferences with people representing agencies and institutions related to higher education; 3) review of commissioned reports and research; and 4) placement of issues relating to non-traditional study before national, regional, and State, and institutional leaders.

7:2.0/72

The Design of Education, Cyril O. Houle, 323 pp. (Jossey-Bass, San Francisco).

Written by a leader in adult education for a quarter of a century, this book is probably the best single overview of the breadth and the depth of adult education which he claims does not differ in fundamental ways from education for children and adolescents.

The book provides helpful background for planners since it puts today's lifelong learning movement in historical perspective while setting it in current social context. A bibliographic essay, which forms the final chapter of the book, is especially useful for its analysis and organization of the literature of adult education from early years to the present, in Europe as well as the United States.

3.0 ETHNIC MINORITIES

7:3.0/77

Minorities in U.S. Institutions of Higher Education, Frank Brown and Madelon D. Stent, 178 pp., (Praeger, New York).

Using several sources of data (most current through the mid-1970's), the authors attempt to determine first the social and psychological benefits gained by minorities in attending U.S. institutions of higher education, and then the characteristics of the minority students who have done so. Among the variables considered are: the numbers enrolled, courses studied and degrees attained, and deterrents encountered, such as poverty and racism.

The major groups examined are American Indians, blacks, Asian Americans and Hispanic Americans. The book is rife with tables—income tables, enrollment tables, population tables—all of which form a picture of minority underrepresentation in U.S. institutions of higher education.

The strength of this book lies in the critical examination of the data, often compiled from several sources—such as the American Council on Education, the Department of Health, Education, and Welfare, and the 1970 census. The authors also weigh several factors before reaching their conclusions. For example, one group appeared to be over-represented in undergraduate institutions in relation to their overall U.S. population. A review of the percentage graduated from high school, however, showed them to be underrepresented.

The authors also identify the special problems minorities have with entering the various graduate disciplines. Also examined is minority matriculation in five States, Texas, California, Florida, Illinois, and New York; correlations are noted between attendance and public funding. Concluding chapters review various State and Federal funding programs, evaluate the interaction of minorities on the campus, and finally, make recommendations for increasing representation of these underrepresented minorities.

The book is one of the most up-to-date analyses of the status of minorities in institutions of higher education. It shows planners what to expect from incoming classes, and how they can change the odds. The volume includes a bibliography.

7:3.0/76-1

Equal Educational Opportunity for Blacks in U.S. Higher Education, Institute for the Study of Educational Policy, 330 pp. (Published for ISEP by Howard University Press, Washington, D.C.).

This is the first in a planned series of annual reports on opportunities for blacks in higher education. Each report will concentrate on one school year and will include follow-up documents recommending State and Federal action. This report covers 1973-74, and provides comprehensive data and analysis of the current status of blacks in higher education, the economic returns for blacks, the continuing barriers to equal educational opportunity, and the problems inherent in the data by which public policies are often determined.

The study analyzes from a vast amount of statistical data the barriers blacks encounter upon seeking a quality higher education. Based largely on surveys and other data collected during 1973-74, it addresses the following issues:

- How is equal education opportunity measured?
- Why are blacks underrepresented in the nation's colleges?
- How does the return on investment in a college education for blacks compare with that of their white counterparts?
- What has been the effect of Federal mandates regarding equal educational opportunity?

Access—the opportunity to enroll in a college—cannot be the only way to measure progress in providing higher education to minorities. The kind and quality of colleges available, as well as a student's ability to do the academic work also present problems for planners concerned with quality education. While Federal mandates have to some extent made access easier, the authors feel more effort is needed to boost the quality of minority education and the staying-power of minority students once they have gained access.

7:3.0/76-2

Minority Group Participation in Graduate Education, National Board on Graduate Education, 272 pp. (National Academy of Sciences, Washington, D.C.).

This study was undertaken by the National Board on Graduate Education in order to "assist in policy formulation, program planning, and specific actions designed to reduce barriers confronting minority group members as they seek graduate education and to develop a hospitable academic environment that will encourage the success of those who enroll."

A 25-page executive summary contains the Board's conclusions and recommendations. These arise out of an analysis of minority participation (mostly data up to 1973-74) and various barriers (categorized as financial, educational, psychosocial, and cultural) on the one hand, and an analysis of the current situation from the perspective of graduate institutions on the other. The latter includes discussions of the declining labor market, affirmative action, legal issues, need for supportive services, etc.

The other sections constitute the remainder of the study. There is a discussion of the efforts of other agencies and organizations to increase minority participation, including Federal agencies, States, professional societies, philanthropic foundations, and business and industry. A final chapter is an abridged version of a report on black graduate schools prepared by the Conference of Deans of Black Graduate Schools.

7:3.0/74

Desegregating America's Colleges: A Nationwide Survey of Black Students, 1972-73, William M. Boyd, 110 pp. (Praeger, New York).

This volume presents the results of a survey of 785 black students and 194 black or white faculty members at 40 predominately white colleges and universities across the United States. Interviews were conducted by black employees of the Educational Policy Center, with the expectation that candid reactions to the black experience on white campuses could be obtained.

The characteristics of black students and their reactions to their college experience are described in early chapters. Issues such as perceived faculty attitudes toward blacks, separatism on campus, (including black housing, etc.) are candidly discussed. One chapter describes differences in perceptions between staff members and black students, revealing that students are in general better satisfied than faculty think they are. Nevertheless, much remains to be done to accommodate the needs of black students at white universities, and 18 recommendations suggested by the data are presented in the final chapter.

7:3.0/71

Minority Access to College, Fred E. Crossland, 139 pp. (Schocken Books, New York).

"Higher education," writes the author of this readable overview of the minority access problem, "has functioned as the chief instrument of social mobility for every ethnic group in American society, except for ethnic groups that are not White."

The deprived ethnic groups referred to include blacks, Mexican Americans, Puerto Ricans, and American Indians. In the academic year 1970-71, they represented less than 10 percent of the nation's total college enrollment. Blacks, by far the largest of these groups, receive the major attention in this study.

The decreasing enrollment in Traditionally Black Institutions (TBI's) has raised questions as to the value of maintaining them. Once the "primary educational resource" for Black Americans, their status has diminished in direct proportion to minority enrollment in other institutions. The author feels, however, the TBI's play an important role: that of preparing black and other youth to cope in a "complex, multi-racial, multiethnic society."

The steady influx of minority students into institutions other than TBI's has presented problems to both students and institutions. Students encounter the following barriers: 1) adverse grading and testing policies, 2) academic difficulties due to poor preparation, 3) lack of money, 4) geographic distance from good colleges, 5) lack of motivation to continue, and 6) racial hostility on the part of faculty, administrators, and peers.

The efforts of many institutions to lower these barriers are often ineffective. The author notes, however, that some strides were made, largely because of institutional efforts. What is needed now, he continues, is organization on the part of secondary and postsecondary institutions, and more State and Federal planning and financial support.

See also: 1:1.0/77-1 Selective Admissions in Higher Education, Carnegie Council of Policy Studies in Higher Education, 256 pp. (Jossey-Bass, San Francisco).

4.0 HANDICAPPED

See also: Topic 2: Campus and Building Planning, Subtopic 2.0: Environmental Issues; and Topic 19: Space Management and Projection, Subtopic 2.2: Access for Handicapped, for information on the architectural considerations involved in accommodating the handicapped in institutions of higher education.

7:4.0/78

Guide to the Section 504 Self-Evaluation for Colleges and Universities, Richard G. Biehl, 127 pp. (National Association of College and University Business Officers, Washington, D.C.) (Available free of charge from NACUBO, One Dupont Circle, Room 510, Washington, D.C. 20036).

This volume is a functional, well-written guide to compliance with Section 504, which calls for equal access to educational institutions for the handicapped. It provides a self-evaluation procedure which, when completed, should become the institution's "master plan" for removing discrimination and achieving equal access for the handicapped.

The book points out that compliance need not be a painful process, and separate programs and activities are discouraged. Rather, the handicapped must be provided access to existing programs. Creation of the proper atmosphere and attitudes at the institution will make handicapped persons better able to help themselves.

Key terms are defined, general provisions outlined, and U.S. Department of Health, Education, and Welfare regulations listed in the first section. "Program accessibility," the key term in Section 504, is handled in a separate section, clarifying the difference between program accessibility, which is required by law, and a barrier-free environment which is not.

The final section, entitled "Implementing the Plan," considers finances. An appendix gives additional sources of information and technical assistance.

The following volume is fully annotated under Topic 19: Space Management and Projection, Subtopic 2: Access for Handicapped, 19:2.2/77. It is briefly annotated here because of its relevance to this topic area.

Planning for Accessibility: A Guide to Developing and Implementing Campus Transition Plans, Margaret Milner, 86 pp. (Association of Physical Plant Administrators of Colleges and Universities, Washington, D.C.).

In the author's words: "This manual has been prepared to assist college and university administrators in making their campus facilities accessible to physically handicapped students, faculty and staff." Recognizing the uniqueness of each campus, guidelines and recommendations for action are presented as starting points for each institution to model a program responsive to its own particular needs.

In order to comply with Section 504, which calls for equal access to all university programs, many campuses must make changes to accommodate the handicapped students who are taking advantage of a revolution in the accessibility of higher education. After access has been made possible, the problem becomes one of publicizing the program. This volume deals with a program handbook and efforts to reach into the community.

The appendix includes sample documents, surveys for implementation of guidelines and further references.

5.0 UNDERPREPARED STUDENTS

7:5.0/77-1

Handbook on Open Admissions: Success, Failure, Potential, Ann Folger Decker, Ruth Jody, and Felicia Brings, 161 pp. (Westview Press, Boulder, Colo.).

This handbook describes the open admissions experience of City University of New York in 1973. The authors evaluate the problems, solutions and administrative policy attendant upon the new experience, including the physical chaos of sheer numbers, the curriculum revision demanded by new kinds of students, and faculty and administrative adjustments.

The question of lowered standards versus greater opportunity is well-handled, and the volume systematically discusses the problems of the new students: the primary one being the lack of basic skills. The perspectives on solutions include testing, remedial courses, and advising, all described in respective chapters. The sections dealing with "the CUNY System" and with "Maintaining Standards" will be of particular interest to planners.

The experiences of CUNY are widely applicable as many universities grapple with similar problems regarding open admissions.

7:5.0/77-2

Overcoming Learning Problems: A Guide to Developmental Education in College, John E. Roueche and Jerry J. Snow, 188 pp. (Jossey-Bass, San Francisco).

"The problems associated with remedial education in college will not go away. In fact, the 'problems' get more awesome each year as more and more students enter college without the verbal and quantitative skills needed to enroll, let alone succeed, in freshmen level courses." (p. ix)

With that statement, John E. Roueche and Jerry J. Snow introduce the subject of their book. The book describes trends and practices in collegiate remedial offerings collected from a survey of some 300 two- and four-year institutions. These findings are related to earlier surveys and to theory and research about learning problems.

Roueche is an experienced authority on remedial or developmental education, and perhaps one of the most useful sections of the book is one describing 12 programs—six in 2-year colleges and six in 4-year colleges—that the authors rate as "exemplary." These programs appear to offer good evidence that remedial approaches can be designed to "promote high retention and achievement with large numbers of non-traditional learners."

This fairly short, readable book should give planners an overview of what is being done and can be done to meet the challenge of underprepared students.

7:5.0/76

Accent on Learning: Improving Instruction and Reshaping the Curriculum, K. Patricia Cross, 291 pp. (Jossey-Bass, San Francisco).

This book contains useful applications of research and theory for improving learning across the broad spectrum of higher education, but its major concern is for instruction and curricula that improve education for underprepared students. The book was awarded the American Council on

Education Book Award for the best book in higher education in 1976.

This book is really a sequel to Cross's earlier book, *Beyond the Open Door*, which described the needs and characteristics of underprepared students. *Accent on Learning* makes some recommendations about how to design educational programs to meet these needs. The author searched the literature of education, psychology, and sociology for research findings that would shed light on the problems of low achievers and "turned off" learners, and then presented the implications of the research and theory for practice. Over 1000 studies were reviewed, and an extensive bibliography contains citations for much of the recent literature relevant to learning for personal development as well as academic competence.

Educators interested in some of the recent teaching and learning innovations will find evaluations and sources of further information on the following: individualization of instruction, mastery learning, computer-assisted and computer-managed instruction, self-paced learning, cognitive styles, programmed instruction, audio-tutorial methods, Personalized System of Instruction or the Keller Plan, intellectual and moral development, laboratory education or sensitivity training, and micro-teaching.

This book is much more concerned with providing educational opportunity through changing instruction and curriculum than through facilitating access via financial aid, counseling and guidance, etc. As such, it is more relevant to planners working with faculty and administrators on program design and faculty development than to planners concerned about attracting new clientele into institutions of postsecondary education.

7:5.0/73

"The Case for Open Admissions," Timothy Healy, Edward Quinn, Alexander W. Astin, and Jack Rossman, *Change*, Vol. 5, No. 3, Summer, pp. 24-37.

This reference consists of a set of three journal articles describing the open admissions "crisis" at the City University of New York (CUNY) in the early 1970's. It is included here because although things have changed somewhat at CUNY, many of the anxieties and doubts about open admissions at CUNY in 1973 still exist in many parts of the country. This set of articles articulates the problems in a sensitive yet realistic manner that helps put planning for equal opportunity for underprepared students in perspective.

The articles by Timothy Healy who was vice-chancellor for academic affairs at CUNY and Edward Quinn, a professor of English at City College, present administrative and faculty perspectives in essays that capture the spirit of the times in delightful prose. The trio is rounded out with a presentation of research data collected during CUNY's first year of open admissions.

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7:5.0/72

Higher Education and the Disadvantaged Student. Helen S. Astin, Alexander W. Astin, Ann S. Bisconti, and Hyman Frankel, 359 pp. (Human Services Press, Washington, D.C.).

This study uses two sources of information: (1) case-study data from 19 institutions operating special programs for disadvantaged students and (2) longitudinal self-report questionnaires from students in special programs or from disadvantaged backgrounds collected by the American Council on Education from 1966 to 1969.

While the data are dated and the institutions' inexperience in operating special programs in those early years make this study of limited usefulness today, the section on implications for educational policy and guidelines for program development still contain relevant reminders regarding student characteristics and institutional response.

7:5.0/71

Beyond the Open Door: New Students to Higher Education. K. Patricia Cross, 200 pp. (Jossey-Bass, San Francisco).

This book calls for new educational approaches to serve the needs of large numbers of underprepared students entering open-admissions colleges. This book is a research study, but it is written for planners, faculty, and administrators. Its purpose is to document some differences between so-called "traditional" and "new" students in their approach to learning.

Basic data for the book are derived from four large national questionnaire surveys, involving from 9,000 to 400,000 high school students and graduates. For each of the four data banks, students graduating in the lowest academic third of the high school class (New Students) are contrasted with those graduating in the top third (traditional students). Variables discussed are broad, ranging across interests, attitudes, motivations, self-concepts, aspirations, and achievements.

Although "new students" are frequently thought of in demographic terms, especially ethnic minorities, this book is specifically concerned with the challenge to colleges posed by students with poor past records of academic achievement. While ethnic minorities are overrepresented in this group, the majority of underprepared students are first-generation college students who are the white sons and daughters of blue-collar workers. Most of these low academic achievers are entering community colleges and other non-selective forms of postsecondary education.

Most of the chapters in *Beyond the Open Door* integrate data across the four national studies to describe the characteristics of "New Students." Several chapters, however, discuss related topics such as national egalitarian trends in higher education, and theory about self-concept and the fear of failure. Chapters on the characteristics of ethnic minorities and women are included even though these groups are not necessarily synonymous with New Students as Cross uses the term to connote low academic achievers. A final chapter makes some recommendations about how open-admissions colleges should deal with the challenge of non-selected student bodies.

7:5.0/70

Postsecondary Education and the Disadvantaged: A Policy Study, Amitar Etzioni, Educational Resources Information Center, 131 pp. (Center for Policy Research, New York).

This policy study sets forth essential concepts and analyzes sociological data and research on compensatory education for the disadvantaged. Divided into three sections, this classic study examines alternatives and makes recommendations for policy. This first section, written by Amitar Etzioni, examines black studies from the perspective of undergraduate and graduate specialization, bridging education, and social centers. The second section, written by Irene Tinker, concentrates on goals, agenda and policy concerned with programs for the underprepared and for pre-college students, and motivational, intensive and remedial, and compensatory programs. The third section is an annotated bibliography.

Although the data are somewhat dated, this study deals less with the application of statistics than with the concepts and theory that continue to be relevant.

6.0 WOMEN

7:6.0/78

Putting Principle Into Practice: Guidelines for Administrators in Implementing Title IX, Donna Shavlik, Emily Taylor and Judy Touchton, 45 pp. (Resource Center on Sex Roles and Education, Washington, D.C.).

This booklet synthesizes much that comes before it in terms of Title IX literature and discusses the responsibilities of high-level administrative personnel for implementing Title IX—the Federal regulation which prohibits the discrimination on the basis of sex in student program and in employment policy and practice in educational institutions receiving Federal funds.

A primary value of this work lies in the recency of the statistics and studies cited on women in higher education, all of which clearly point to underrepresentation of women.

The booklet offers suggestions for achieving equity in hiring and in student programs, and poses questions for administrators as they evaluate institutional operation and possible areas of discrimination. Throughout the booklet, relevant sections of the regulation are noted, each followed by practical suggestions for implementation. Although the emphasis of this volume is on hiring practices, any volume dealing with equity in the institutional structure is tangentially beneficial to students seeking equal access.

Literature analyzing Title IX is essential for planners; the authors conclude with many recommendations for more equitable hiring in light of Title IX, among them, guidelines for preparing job descriptions, recruiting, interviewing and screening of candidates.

7:6.0/77

Women in Higher Education, W. Todd Furniss and Patricia Albjerg Graham, eds., 336 pp., (American Council on Education, Washington, D.C.).

A collection of brief essays prepared for the American Council on Education's 55th annual meeting, this book explores the role of women—as professor, student and staff member—at American colleges and universities.

One of the first women undergraduates at Yale University writes about being in the minority (8 to 1) at a newly co-educational school. One professor writes of her efforts to start a kind of employment agency for women historians. A university president details some problems he has had initiating affirmative action; another president emeritus discusses her views on balancing the pursuit of a professional degree with marriage and motherhood.

These and a myriad of other issues are treated in these essays—the rate of promotion and the possibility of part-time work for women teachers; attrition rates among women; maternity leave policies; and the fate of women's colleges.

Written by some of the most notable men and women in the area of higher education, the essays combine to form a well-rounded picture of the female academic in the mid-1970's, particularly of the areas in which she faces discrimination. Several of the writings suggest ideological shifts useful in planning and practical steps one can take to anticipate them.

The essays are lively, well-written and thought-provoking, recommended for anyone who wants a quick look at contemporary questions facing women in higher education.

7:6.0/76

Sex Discrimination in Education: Access to Postsecondary Education, Helen Astin, Michele Harway, Patricia McNamara, 394 pp. (Higher Education Research Institute, Los Angeles).

This study attempts to identify the factors that either facilitate or inhibit educational access for women, particularly at the postsecondary level.

The authors look at the kinds of high school courses women take and grades that they achieve, the kinds of institutions in which they enroll, and the major fields and careers they choose. The authors then compare these factors with similar ones for men and then racial/ethnic groups to see whether they affect access to educational institutions.

The personal and social backgrounds of women are also reviewed as possibly contributing to the "generally lower educational and occupational aspirations and achievements of women." The study also looks for signs of discrimination in the way information on various educational opportunities filters down—through parents, guidance manuals, and counselors.

Other areas reviewed for possible discrimination include the college admission process, attitudes of male faculty, and availability of financial aid. One chapter is devoted to the special problems of adult women returning to school.

Relying heavily on previous surveys (the study was conducted over a brief 9-month period) the authors conclude that despite higher grades, women are less likely than men to go to college, and those that do may be more likely to select a less expensive, less prestigious school. Part of the reason is discrimination: schools lack female role models; institutional catalogs are biased toward men; schools encourage "traditional" women's majors which limits choice; and the American society historically has given higher priority to education of men than to education of women.

Throughout the study the authors pose questions for further study, and end with recommendations for programs, research projects and legislation to ensure more equal educational access for women.

Unable through time constraints to conduct many of their own surveys, the authors do an able job of synthesizing and interpreting existing data. Although they draw no monumental conclusions, they give a good indication of trends among college students in the 1970's.

7:6.0/75

Barriers to Woman's Participation in Postsecondary Education: A Review of Research and Commentary as of 1973-74, Esther Manning Westervelt, 76 pp. (U.S. Department of Health, Education, and Welfare, Washington, D.C.).

This report offers a good succinct overview of the research up to 1974 on women's participation in higher education. It is divided into three sections, one dealing with institutional barriers, one with social constraints, and one with psychological factors.

The barriers institutions pose to women in areas such as admissions, financial aids, housing and other practices subject to the direct control of colleges and universities are given the greatest attention, and it is this discussion that will be of the greatest interest to planners. But one of the valuable contributions of this overview is the perspective it gives by placing institutional barriers to equal educational opportunity for women in the context of the barriers erected by social attitudes about women's roles and the psychological conflicts that women face in balancing traditional roles and expectations with new models and pressures for achievement.

7:6.0/73

Opportunities for Women in Higher Education: Their Current Participation, Prospects for the Future, and Recommendations for Actions, Carnegie Commission on Higher Education, 282 pp. (McGraw-Hill Book Co., New York).

This Carnegie Commission report begins with observation that at each "gate" of the successive key points of advancement in the academic world, the percentage of women declines. Extensive charts and data illustrate the paths of women through the educational system as entrants to college, undergraduates, graduate and professional students, faculty members, and administrators.

The special problems at each stage of education are explored, usually through statistical charts and tables, and recommendations are made for overcoming problems at each successive level.

Two final chapters discuss the issues of affirmative action (including legal background, case histories and policy considerations) and needed campus facilities such as continuing education and child care centers.

Although books that present substantial data tend to become dated rather quickly, the problems discussed in this volume still exist, and the recommendations are as relevant now as they were in 1973. This volume probably remains the single best information resource on the education of women within the traditional framework of higher education.

8

Faculty

Everett C. Ladd

The old professorial boast, "*We* are the university," can surely be challenged, but it rests upon so fundamental a concept that no bibliography on higher education planning can ignore central attributes of the professoriate.

Three broad considerations of the position of faculty in American higher education are of primary importance to planners. First, certain characteristics of the occupational stratum must be understood in order to assess the faculty's capacity to perform in desired ways. Second, the faculty's social and educational responsibilities must be determined. Third, measurements and standards must be developed to evaluate actual faculty performance. These three considerations—status, role, and performance—establish the organization for this section on faculty.

Status. This section considers the adequacy of the supply and demand of appropriately trained faculty and the degree, by academic field, of "over production." Levels of compensation of faculty are also reviewed, as is faculty mobility, taking into account the entrance of new talent and the departure of existing personnel and changing tenure of retirement policies.

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Other studies involve trends in faculty hiring, salaries, and tenure.

Role. Here the broad sociopolitical role of the faculty is discussed—the objectives faculty are to promote and how the academic milieu fosters or discourages this role. Frequently at issue is the question of what is the appropriate role of faculty and how this role can be best developed. This section also touches upon discrimination in faculty appointments and the question of teaching versus research.

Performance. This subtopic considers the ways in which faculty performance is affected by economic, political, and social forces. Entries deal with collective bargaining in higher education, how it affects faculty performance, reasons faculty resort to collective bargaining, and guidelines for negotiating contracts. Also examined are faculty unionism, and the adequacy of the faculty rewards structure for promoting desired performance.

TOPIC ORGANIZATION

8: Faculty
  1.0 Status
    1.1 Supply and Demand
    1.2 Compensation
    1.3 Tenure
    1.4 Retirement
  2.0 Role
    2.1 Sociopolitical Role and Perspectives
    2.2 Educational
  3.0 Performance
    3.1 Governance and the Impact of Unionization
    3.2 Faculty Assessment and Rewards

1.0 STATUS

1.1 Supply and Demand

8:1.1/78

Earned Degrees Conferred 1975-1976, Summary Data, National Center for Education Statistics, 50 pp. (U.S. Government Printing Office, Washington, D.C.).

This report is the latest in a series published annually in various forms since 1947. The methodology and variables have changed somewhat over the years, but the reports are comparable. The greatest changes have been in the designation of "Institutional" or "Summary" data. The two types of data have been combined, or published separately at various times in the series' history. The last instance in which "Institutional Data" appeared in a report was in 1976 for the year 1973-1974.

The data in the current report result from responses to a survey ("Degrees and other formal awards conferred between July 1, 1975 to June 30, 1976") which was part of the 11th Higher Education General Information Survey (HEGIS), conducted by the National Center for Education Statistics (NCES).

An introductory section describes both general aspects of the institutional survey and the data collected. A reproduction of the survey form is included.

The collection includes three summary, seven detail, and two appendix tables. The summary tables, covering the academic years of 1970-1971 to 1975-1976, are compilations of degrees conferred by discipline division for bachelor's, master's, and doctoral degrees.

The detail tables provide statistics on degrees by a range of variables including sex of respondent, control of institution, and geographic area. Degrees are categorized to indicate different trends. These tables are all based on one definition of the aggregate United States.

The appendix tables are based on another definition of the aggregate and are set up to enable comparison with the tables based on the first definition of the aggregate.

This series provides dependable statistical data which can be invaluable for the researcher in his review of supply and demand factors as they relate to faculty in higher education.

8:1.1/76

Young Doctorate Faculty in Selected Science and Engineering Departments, 1975 to 1980, Frank J. Atelsek and Irene L. Gomberg, 31 pp. (American Council on Education, Washington, D.C.).

This book is a report based on a 1976 survey conducted for the

National Science Foundation. It focuses on young doctorate faculty (defined as having received their doctorate degrees within the previous seven years) employed full-time in science and engineering departments at Ph.D.-granting institutions. Department heads in selected science and engineering fields at 145 such institutions (all of which had received at least $1 million in Federal support for research and development in 1974) were surveyed regarding the proportions of young doctorates on their faculties; an estimation of the proportion in 1980; their opinions concerning whether those proportions were too low; the steps the department or institution had taken or was planning to take in the near future to change tenure or appointment policies and practices; and their opinions concerning changes they felt would be necessary to correct the problem areas. The selected departments included biochemistry, biology, botany, chemical engineering, chemistry, economics, electrical engineering, physics, physiology, sociology, and zoology. Responses to questions outlined above are presented in tables, by department.

The results of this study indicate that the proportion of "young" faculty has decreased over the past seven years and is expected to continue to decline. Suggested means of increasing this proportion include encouragement of early retirements; increased funding, research support, post-doctorate research associate positions, sabbaticals, etc.; changing the tenure system; and hiring only or mostly young faculty. Respondents were not optimistic that these changes would in fact be accepted by their departments or institutions.

While other sources may give more complete data on the actual proportions of young faculty in American higher education, this report is valuable for its data on the perceptions of persons directly affected by the shortage—the heads of departments.

1.2 Compensation

8:1.2/A

Report on the Economic Status of the Profession, 1977-1978, American Association of University Professors, 74 pp. (AAUP, Washington, D.C.).

This report is the latest in a series begun before 1960. Some earlier data are available and may be requested by contacting AAUP directly. An aggregate data report in printed form has been published annually since 1960. Since the annual report was first published, there have been two format changes. First, since 1970 the average salary for institutions has been included by rank, and secondly, since 1974-75 data by sex has been included. AAUP has also made the reports available on computer tape for a small fee since 1970.

An annual report consists of two parts. The first is a brief analysis and explanation of the tables which make up the second part. The analysis concentrates on the economic situation within higher education in the current year, in this case 1977-78. This section also includes observations of major changes, notable consistencies and trends that will need to be considered for the future. The data section consists of tables which include information on the aggregate United States, individual institutions, projections, and faculty salaries and tenure. A variety of different variables are used to provide comparative results of the data, which were collected through institutional surveys.

This series is important for two major reasons: (1) collectively, it provides a substantial amount of important data and (2) the annual report provides the most recent data available.

8:1.2/76

Salaries and Tenure of Instructional Faculty in Institutions of Higher Education 1974-75, National Center for Education Statistics, 271 pp. (U.S. Government Printing Office, Washington, D.C.).

Detailed tabulations compiled from the 1974 NCES survey of Salaries and Tenure of Full-time Instructional Faculty are presented in this report. The salary data updates information collected earlier and published in *Higher Education Salaries and Fringe Benefits, 1971-72* and *1972-73*. The 1974 survey data includes breakdowns on faculty tenure by sex. More than 97 percent of the institutions in the higher education universe, as defined by the U.S. Department of Health, Education and Welfare Office of Education, responded to the survey. Most data for non-responding institutions (both in 1972 and 1974) were drawn from information reported by a similar institution. Similarity was judged on the basis of institutional control, institutional level, sex of student body, highest degree offered by the institution, type of program, and total enrollment in Fall 1972 and 1974.

The basic tables are divided into two sections. Section I contains tables in which all branches of a reporting multicampus institution are treated as a single unit, and classified by the highest level of any of the separate branches. In Section II a different definition of "reporting unit" is used, one in which each branch of a multicampus institution is treated as a separate unit like all single-campus institutions, and aggregated according to each of their respective classifications. Both sections contain the same tables and breakdowns. There are 10 tables per section. These tables cover various aspects of tenure, rank, salaries, and type of institution. Variables like sex, institutional control, geographic region, and length of contract are used to further break down the data.

This report provides a quantity of useful recent data. It covers many pertinent areas in the regions of salary, tenure, and the institution. As a final point, some earlier data is available, but comparability is limited since this series has never been annual and lacks consistency in definitions.

1.3 Tenure

8:1.3/73-1

Faculty Tenure, Commission on Academic Tenure in Higher Education, 276 pp. (Jossey-Bass, San Francisco).

The Commission on Academic Tenure in Higher Education was established in 1971 by the Association of American Colleges (AAC) and the American Association of University Professors (AAUP), and was funded by the Ford Foundation to conduct an autonomous investigation of the practice of tenure in American institutions of higher education. This book is a report of the findings of this committee and its recommendations for future tenure policies. Supporting documents include selected tables from a 1972 survey by the Higher Education Panel of the American Council on Education of tenure policies and practices in American higher education and the 1969 Faculty Survey of the Carnegie Commission on Higher Education.

The Commission's conclusions regarding the status of tenure in 1972 in higher education were (1) that a great variation existed among institutions in tenure policies and practices, with 85 percent of the institutions surveyed by the Higher Education Panel having tenure plans; (2) that almost 50 percent of all faculty were tenured and because of relative youth of present faculties, tight budgets, and enrollment declines, the chance for advancement of younger faculty members was becoming increasingly difficult; (3) that a need existed for "reform in the operation of faculty personnel programs as a whole and of tenure programs in particular . . . "; (4) that while alternative contract systems were in operation in some institutions, the Commission was unable to reach any definite conclusions regarding their success. Pros and cons of tenure described by the Commission as the most important or most frequently raised were discussed. It was the judgment of the Commission that " . . . the weaknesses that have brought academic tenure under needed scrutiny are not imperfections in the concept itself but serious deficiencies in its application and administration . . . These deficiencies, we are convinced, are remediable, by reform in institutional policy and practice and professional standards and priorities."

The committee concluded that academic tenure is extremely valuable in maintaining both academic freedom and the quality of faculty. It recommended (1) emphasis on institutional responsibility, (2) attention to neglected elements of an effective tenure system (including teaching effectiveness, the role of students in assessment of teaching, evaluation of scholarship and research, faculty responsibility and codes of conduct, and staff planning, (3) "recognition of tenure problems as related to the professional development of faculty," (4) specific means of strengthening institutional tenure plans, (5) "consideration of a number of special problems of current concern," (6) "measures for needed information and research to assist colleges and universities in improving and maintaining effective faculty personnel programs."

This volume is an invaluable resource as probably the primary and most thorough reference available at this time on faculty tenure.

8:1.3/73-2

Steady-State Staffing in Tenure-Granting Institutions, and Related Papers. W. Todd Furniss. 33 pp. (American Council on Education, Washington, D.C.).

The purpose of this book is to develop a personnel policy for institutions of higher education that can be applied during a time of little or no growth in student or faculty populations. The author describes the current situation as one complicated by both the fact that this no-growth period has followed one of very rapid growth, and by the emergence of governance patterns very different from those of 30 years ago. The three papers compiled for this book focus on the tenure system in this steady-state period. The first discusses the desirable characteristics for a faculty under these conditions and offers recommendations for planning within a tenure system. The second paper considers the issues which have emerged from the nonrenewal of contracts of probationary faculty in tenure systems. The third paper offers suggestions for lessening the problem of surplus faculty such as: increasing funding for college programs (which the author does not see as a likely possibility), reducing competition by limiting the numbers of candidates admitted to some graduate programs, adopting temporary measures which would vary depending on the needs and resources of individual institutions and departments, reallocating faculty, creating new jobs, and encouraging career changes among faculty.

An appendix presents data from a 1974 questionnaire survey on tenure practices, including such things as length of probationary periods, percentages of faculty considered for tenure, percentages actually granted tenure, and contract procedures for non-tenure-granting institutions. A second appendix offers a sample set of profile tools for departmental planning in a steady-state condition. Statements by the Association of American Colleges and the American Association of University Professors concerning the handling of staff reduction in a tenure system are presented in the final two appendices.

This book is of value for immediate as well as long-term planning for faculty, particularly in tenure-granting institutions during the present time of limited growth.

1.4 Retirement

8:1.4/78-1

Changing Retirement Policies, a part of the series, **Current Issues in Higher Education**, American Association for Higher Education, 25 pp. (AAHE, Washington, D.C.).

As of July 1, 1982, involuntary retirement of tenured faculty in higher education, under the age of 70, will be prohibited by the recently passed amendment to the Age Discrimination in Employment Act. Prepared for the American Association for Higher Education, this publication consists of three papers which explore the impact and implications of this legislation.

The first of the three papers was prepared by David D. Palmer and Carl V. Patton and focuses on attitudes of faculty towards early retirement. The paper is based on two studies; on the Ladd-Lipset 1977 Survey of the American Professoriate, a questionnaire survey of over 4,200 faculty at nearly 160 universities and colleges; and the other, "A Survey of Institutional Practices and An Assessment of Possible Options Relating to Voluntary Mid- and Late- Career Changes and Early Retirement for University and College Faculty," conducted by Joseph Zelan through interviews with faculty who had recently retired under incentive early retirement programs. Data are analyzed regarding the proportions and types of institutions with current retirement ages lower than 70 (who will of course be most affected by the new legislation); the impact of differing ages at which faculty report they would "most likely retire from full-time academic employment" as a function of the mandatory retirement age and type of their institutions; and the types of early retirement incentives which faculty reported would induce (or already had induced) them to retire earlier (and how much earlier).

The second paper, written by Thomas M. Corwin, is a report on the American Council on Education study of the "Effects of Raising the Mandatory Retirement Age of Higher Education Faculty." Data on age distribution of tenured and non-tenured faculty is presented and discussed for institutions of higher education as a whole and for different types of universities and colleges. Also surveyed are institutional policies regarding mandatory retirement and recent and projected faculty vacancies (their number and the ages of those vacating the positions) for these institutions. The implications of this data for planning for the 1982 prohibition on mandatory retirement under age 70, and the effects of this legislation on the market for young Ph.D.'s are also discussed.

The third paper, prepared by Peggy Heim, discusses the implications of this new retirement age legislation, focusing on the financial implications (for both institutions and for faculty members). She offers for the consideration of the planner, potential results of and/or problems with a wide range of policies aimed at dealing with the new legislation.

During a time of decreased student enrollments, limited budgets, and an already serious shortage of positions for new faculty, the new mandatory retirement prohibition brings with it issues of importance to planners for faculty in higher education. This collection of papers offers the planner an overview of the wide range of these issues and statistical analyses of the extent of some of the problems. It also covers the anticipated outcomes of various methods for dealing with the problems.

8:1.4/78-2

Academia in Transition: Mid-Career Change or Early Retirement, Carl V. Patton, 250 pp. (Abt Books, Cambridge, Mass).

During a time of little or no growth (and even decline) in the size of student population and budgets, American institutions of higher education are facing a serious dilemma of having little room for adding new young faculty so imperative to the vitality of higher education. When the rapid growth of the sixties finally came to an end these institutions were left with a supply of faculty more than adequate to meet their need (in number) for a long time to come. In an effort to deal with the problem, some institutions have encouraged faculty members to retire earlier, in order to open spaces for the new younger faculty. The recently passed Federal legislation prohibiting forced retirement of faculty before the age of 70 will become effective in 1982. For many institutions this will mean allowing faculty to remain even longer than before.

The author begins his study of this situation with a review of why higher education institutions need early retirement programs. The steady-state condition and its implications for the future of institutions of higher learning are discussed. An exploration into the steps that private industry, government, and academe have taken to encourage mid-career change and early retirement follows. In addition to reporting on a number of academic institutions which have formalized incentive plans of early retirement, the author looks at plans within the civil service, the military and private industry and covers the basic structures of the plans, the types of incentives used and the success each has had in encouraging early retirement.

One chapter focuses on a study of early retirees from four major universities having incentive programs. The author examines reasons given for choosing to retire early, the preparation that was necessary before retirement, satisfaction or dissatisfaction with the decision, and the effects of early retirement on the retiree's scholarship activities, economic position and general well-being. His findings indicate that certain candidates seem to be better prospects than others for early retirement. The characteristics of this group are discussed.

The financial implications of various retirement options, including complete retirement and part-time employment, are carefully reviewed in a separate chapter. Carl V. Patton discusses the effects on faculty composition which would result if these various options were employed. Through a statistical analysis, he evaluates the impact which early retirement and mid-career change would have on faculties containing different age groups, and points out the changes in rates that would be necessary to alter the age composition of faculty.

A chapter devoted to legal questions, updated to include the most recent changes in the Age Discrimination in Employment law, is included covering funding, tax, and the requirements of the Employee Retirement Income Security Act (ERISA).

Finally, Patton discusses the advantages and disadvantages of the options reviewed earlier in the volume. He presents a number of policy implications for consideration. This timely book will be a valuable reference to planners, helping them identify possible alternatives for encouraging faculty to retire early, prepare necessary cost calculations, focus on the proper control variables when the age composition of faculty is identified as a problem, and present a general view of the impact one can expect early retirement programs to have on faculty.

2.0 ROLE

2.1 Sociopolitical Role and Perspectives

8:2.1/S-1

Ladd-Lipset 1977 Survey of the American Professoriate, Everett Carll Ladd, Jr. and Seymour Martin Lipset, (Social Science Data Center, University of Connecticut, Storrs).

Ladd-Lipset 1975 Survey of the American Professoriate, Everett Carll Ladd, Jr. and Seymour Martin Lipset, (Social Science Data Center, University of Connecticut, Storrs).

8:2.1/S-2

1975 Carnegie Commission National Surveys of Higher Education: Faculty, Carnegie Council on Policy Studies in Higher Education, (Survey Research Center, University of California, Berkeley).

1969 Carnegie Commission National Surveys of Higher Education: Faculty, Carnegie Council on Policy Studies in Higher Education, (Survey Research Center, University of California, Berkeley).

8:2.1/S-3
1972 Faculty Study, American Council on Education, (American Council on Education, Washington, D.C.).

A comprehensive collection of surveys of faculty opinion and behavior has been conducted in the United States since 1969, covering a period during which higher education has seen many massive changes from the political turbulence of the late 1960's to the present period of retrenchment and declining enrollments. The five faculty surveys mentioned here were administered during this period and contain a wealth of information, much of which has not yet been explored. A wide range of both university-related and external national concerns comprise all but one of the studies, and all include valuable demographic data. The latter investigation contains data strictly on higher education.

The most recent study, the Ladd-Lipset 1977 Survey of the American Professoriate, was initiated in order to update and expand upon a 1975 survey conducted by the same investigators. The 1977 study explores professorial opinions and behavior in areas relating to the general status of higher education, the problems confronting professors and their performance; financial support of institutions of higher education and Federal funding of research and development; professional standards and modes of behavior in academe; collective representation of faculty; the attractiveness of the "early retirement" option; national politics and policy; norms of science and scholarship; and international scholarly or scientific exchange.

A significant amount of biographical and career-related data are also included. Age, sex, race, religion, and education data identify the composition of the professorial stratum. Figures on time spent in various professional activities–research, teaching, consulting–is available along with other information or professional experiences.

The 1975 Ladd-Lipset survey, though more limited in its range of issues, covers some areas of inquiry in more detail than the 1977 survey, particularly voting behavior and involvement of faculty in public affairs in the various levels of government. The study also includes a number of topics which do not appear in the 1977 survey relating to both the university and the nation. Overall, this investigation has similar background and career data as the 1977.

In addition to the Ladd-Lipset surveys, two massive studies of faculty were conducted by the Carnegie Council on Policy Studies in Higher Education—one in 1969, and a follow-up in 1975 which extended the boundaries of the first inquiry. A significant amount of data from the 1969 survey encompasses the response of faculty to the political activism of college students during the late 1960's. Faculty assessments of the quality and structure of higher education, as well as their position and performance within the academic institution, provide important information along with data on their teaching and research responsibilities. Levels of involvement in department and institutional affairs is included. Descriptive data of professional activities of faculty, members, on their backgrounds, and on their own status within the profession is plentiful. Other related topics, some mentioned in the discussion of the Ladd-Lipset surveys, also are covered.

The 1975 Carnegie Council survey encompasses many of the same areas, providing opportunity for comparisons over time. Teaching and research orientations, time spent in various professional activities, assessments of graduate and undergraduate education, views on the academic reward structure, governance and affirmative action—all are only samples of what is contained in this study. The descriptive and attitudinal data are accompanied by background and demographic information.

In 1972, the American Council on Education conducted a large-scale survey which focused on professional characteristics of faculty. Job-related data comprise the bulk of the survey, and a section is included on faculty attitudes on a number of university-related matters. Most of the data provides comparability with the Carnegie Council and Ladd-Lipset surveys. Questions are included on research funding, personal and institutional goals, time spent in various professional activities, background job experiences, productivity, satisfaction with academic life, salary and tenure. Traditional demographic data are also included.

Together, or in part, these five studies represent an important resource for planners in their attempt to assess the future needs of faculty in higher education. Information can be found here which cannot be found elsewhere and the five studies allow for a time comparison which can be of importance. The descriptive and opinion data each have their own value and can be useful in a number of planning areas. Results from the 1975 and 1977 Ladd-Lipset surveys have been published in the *Chronicle of Higher Education* (a series appearing from September 1975 to May 1976, and, more survey have been written, some of which can be identified by the Carnegie Council on Policy Studies in Higher Education. The same applies to the

1972 American Council on Education survey. At this time, no known publications have appeared based on the 1975 Carnegie Council survey. All of these studies are on tape and available for computer analysis. Access information regarding the datasets can be obtained by contacting ACE, the Carnegie Council, or the Social Science Data Center, University of Connecticut.

8:2.1/78

But We Will Persist, American Association of University Women, 86 pp. (AAUW, Washington, D.C.).

This report results from a survey conducted by the American Association of University Women (AAUW) in 1977. This is a follow-up on a survey taken in 1970, designed to determine the progress that has been made in higher education since the enactment of affirmative action and equal opportunity laws. The survey also supplies data on new programs, trends, and practices that have begun because of recent legislative action.

The data collected show that women have made small gains, but that discrimination persists. Discriminatory practices have led to continuing inequality in opportunities and resources open to women. The study shows that although academic institutions are fulfilling immediate requirements, they are not taking steps to ensure discrimination does not recur. The report also cites attitudes within academia as causing the most problems for women. Many academics are of the opinion that the problem is also due to "societal attitudes and economic factors such as retrenchment, lack of funds, and other resources." The data show that legislation is thought to be the most effective way to reduce discrimination. "Commitment of university administrators, education programs for women, and campus advisory groups on women" are also cited as good tools to decrease discrimination. The report includes many major findings on such varied topics as "child care," "recruitment procedures," and "women as commencement speakers." There is also a list of "AAUW Recommendations for Remedial Action."

This report provides a good preview of AAUW's expectations. It shows the gains that they believe have been made, the gains they desire, and most importantly, a foreshadowing of how they plan to attain their goals. The findings, based on very current data, will be quite valuable, especially since the salience of the issues demands that supporting evidence be recent in nature.

8:2.1/76

The Divided Academy: Professors and Politics, Everett Carll Ladd, Jr. and Seymour Martin Lipset, 351 pp. (W.W. Norton, New York).

This book is based on data collected from the massive 1969 Commission on Higher Education Faculty Survey and two follow-up studies on academe conducted by Ladd and Lipset in 1972.

The authors propose that faculty members form a distinct and influential group in American society and, as such their social and political views deserve special attention. The book is divided into three major sections, each of which deals with a different aspect of this study. The first part views faculty opinions from the perspective of historical change, from the period before World War II, and as a special segment of the nation. The conclusion is that professors tend toward a more ideologically liberal view on political and social questions than the mass public. The second part discusses "The Divided Academy"–the partitioning that occurs *within* the academic profession while as a distinct ideological group, when compared to the nation, "they show a remarkable consistency of ideas across a wide range of issues." The authors believe that these divisions are predictable and pay special attention to the "structural determinants of professorial opinion." Part III turns to specific issues: campus protests in the 1960's, the presidential election of 1972, and the effects of unionism on faculty. These points of ideological conflict are used to develop observations about academic life and its position in American society.

Ladd and Lipset believe that faculty are an important part of the intellectual stratum of society and therefore, of society as a whole. The faculty, with their essentially liberal outlook and their opportunity to easily convey their ideas to many people, have been and will continue to be a principal force in promoting social change. This book offers a valuable insight, especially to those outside of academia, into faculty ideology.

8:2.1/74

Antibias Regulations of Universities: Faculty Problems and Their Solutions, Richard A. Lester, 168 pp. (McGraw-Hill Book Co., New York).

The author begins by considering the supply and demand aspects of faculty appointments at major universities. This discussion is extended to include "university aims in hiring, promotion, and compensation of faculty."

Next the author discusses "the various aspects of discrimination, especially in university faculties, and explains the need to take supply factors into account in dealing with allegations of discrimination in employment." He goes on to say that "the Federal Government, in its method of analysis and its enforcement programs, has tended to neglect these factors."

The author proceeds to examine the U.S. Department of Health, Education and Welfare (HEW) program for compliance. Both the development of and the plan for calculating goals are analyzed. Richard A. Lester includes a numerical example of the difficulties encountered by following HEW's plan, and suggests other goals for affirmative action plans.

Enforcement programs, on both the Federal and State level, are reviewed. The author looks at the process of adversary proceedings and proposes an alternative system for dealing with allegations of discrimination in faculty employment.

HEW's Higher Education Division and its relationship to affirmative action in major universities are examined. Discussion includes comment on the inappropriateness of using an industrial model for a faculty system to determine antibias regulations.

Lester "presents an alternative program of antibias regulation for faculty of higher education." The program consists of "six substantive components." The first suggests the need for affirmative action to increase the supply of qualified female and minority faculty in those disciplines where they are particularly few in number. Lester's second point is that affirmative action analysis and goals should be confined to the level of new and prospective Ph.D.'s. For his third part, Lester reviews five methods for enforcing nondiscrimination. The last three components deal with administrative policies. Lester feels HEW should handle affirmative action plans, not the Labor Department. He also suggests that *one central* agency be created to assume the responsbility of regulation. Relating to this, he believes there is a need for reordering and improving the staff at HEW which would be undertaking this task.

The author closes with a summary of "the principal faults in federal antibias regulation of universities" and a discussion of "the need for leadership by faculty and administrators to achieve appropriate and constructive antibias programs . . . " This recapitulation of governmental failure to recognize academic goals and the need for a strong administrative stand is supported by the opening chapters.

2.2 Educational

8:2.2/77

Conflicting Pressures in Postsecondary Education, Robert H. Fenske, pp. 171-212. (Association for Institutional Research, Tallahassee, Fla.)

This collection of papers, selected for the 1976 Annual Forum of the Association for Institutional Research at Los Angeles, covers a wide variety of topics. Several are of special interest to the planner for faculty in higher education.

J. Stanley Laughlin and Vernon A. Lestrud, "Faculty Load and Faculty Activity Analysis: Who Considers the Individual Faculty Member?" According to the authors, "The intent of this paper was to present conflicts between the perceptions of faculty members and the other publics (that influence higher education) regarding fund allocation and activities that faculty view as their responsibility." The authors include a number of suggestions for reducing the pressures which result from this type of analysis.

Donald P. Hoyt and Michael O. Stewart, "Faculty Rewards, Faculty Accomplishments, and Sex Discrimination". This report presents the findings of a study on the relationships of faculty accomplishments and faculty rewards in the merit-based salary increase system of State colleges in Kansas, and of the allegation of sex discrimination in the granting of these rewards. While the sample size (161 respondents, only 24 of whom were female) limits the usefulness of the data presented in this report, the study may prove useful as a model for further research in this area.

Gerald H. Kramer and John W. Creswall, "Four-Year State Colleges: The Scope of Collective Bargaining." For 4-year State colleges during the 1973-74 academic year, the "scope" (defined as the range of topics covered) of written agreements between institutions and their bargaining agents is analyzed. The analysis controls for such factors as (1) the particular bargaining agent (American Association of University Professors (AAUP), National Education Association (NEA), or New York State United Teachers (NYSUT)); (2) [illegible] of the bargaining unit—distinguishing between units compr[illegible] only instructional staff and those including professional support staff [illegible] instructional staff; (3) the type of State laws governing collective bargaining; (4) the provision for neutral third-party intervention; and (5) the inclusion or exclusion of binding arbitration clauses in the written agreement.

D.R. Coleman and J.K. Bolte, "A Theoretical Approach for Internal Allocation of Academic Personnel Resources." The purposes of this study were (1) "to develop a theoretical model for the allocation of instructional faculty resources independent of discipline", (2) "to develop student credit hour (SCH) productivity factors by discipline", (3) "to contrast the number of faculty members allocated by the theoretical model and the traditional model." The authors describe the development and analysis of this model at Florida Technological University and believe that "the procedure provides an equitable, objective method for assessing faculty needs and that it is readily adaptable to other institutions regardless of size."

Robert G. Simerly, "Improving Institutional Accountability Through Faculty Development: Reacting to Conflicting Pressures in Post-secondary Education". This paper briefly discusses many of the topics to be considered in planning for faculty development. Topics include (1) the pressure of being equalitarian, (2) the role of the institutional researcher, (3) the "publish or perish" pressure, (4) the "faculty work world", (5) the faculty development movement, (6) faculty development as individual freedom—the laissez faire approach, (7) faculty development as introduction and initiation, (8) faculty development as career development, (9) faculty development as curriculum reform, (10) faculty development as concept and construct, and (11) faculty development as organizational metagoal. In addition to a brief description of each of these topics, the author refers the reader to numerous other writings for further study of the particular topics, providing a valuable reference collection.

John R. Bolte and D.R. Coleman, "An Analysis of Philosophies Concerning Faculty Promotion and Related Implications for the Institution." In discussing the effects of various promotion policies, the authors present tables of the effects of rank distributions on salary averages. Three promotion philosophies are described: "lock-step promotion", "merit promotion", and "merit promotion with reassessment." The relative advantages and disadvantages of each of these promotion policies are discussed.

The authors of each of these papers are authorities in their own areas. For the planner interested in studying more than a single area relating to faculty in higher education, the book offers the expertise of each of these authors in a single source.

8:2.2/75

Teachers and Students: Aspects of American Higher Education,
Martin Trow, ed., 419 pp. (McGraw-Hill Book Co., New York).

This book contains eight reports. Each of these evolved from the information received by the "National Survey of Faculty and Student Opinion" carried out between 1968 and 1972. The survey was a joint effort undertaken by the Carnegie Commission and the American Council on Education. The authors were all members of the research team which drafted and carried out the survey. Copies of the survey questionnaires and a technical report on the survey are included in two appendices.

Each of the eight reports deals with a specific topic that provides insight into the life and motivation of a faculty or student group. The first report contains the general findings of the survey about "Students and Teachers." The population discussed is divided into three subgroups: faculty, graduate students, and undergraduate students. This report also explores institutional character. The second report considers the question of research versus teaching. The main emphasis of this report is on research—its orientation, activity, rewards, and how it compares with other activities, notably teaching. The third report considers "Religious Involvement and Scholarly Productivity." This is explored from the perspective of institutional variations, academic discipline, scholarship, and personal values. The fourth and fifth reports concentrate on students under such topics as "Black Students in Higher Education" and "Undergraduates in Sociology." The last report also discusses the student–in this case through an analysis of the "Peer Theory" of student behavior. The sixth report discusses the position of women in academia, concentrating on the reward structure and its fairness. The seventh report deals with married faculty. It approaches the topic both from the perspective of attaining educational goals and professional advancement.

Based on a massive collection of data, this book provides a comprehensive examination of some specific traits of faculty and students as well as a close-up observation of faculty goals and values as seen by the faculty itself. An understanding of this diverse population which comprises higher education–faculty and students specifically–will be essential to the successful planner.

3.0 PERFORMANCE

3.1 Governance and the Impact of Unionization

8:3.1/77.1

AAUP Policy Documents and Reports, American Association of University Professors, 98 pp. (AAUP, Washington, D.C.).

This publication, commonly referred to as the "Redbook", is the compilation of policy statements and guidelines of the AAUP. Included is the 1940 Statement of Principles and the 1970 interpretive comments on this document, as well as statements on a range of topics from 1956 to as recently as 1976. Topics cover academic freedom; tenure and due process; college and university government; collective bargaining; professional ethics; student rights and freedoms; college and university accreditation; research and teaching; and collateral benefits. The Constitution of the Association is also included in this publication. While some of the reports include discussion of the rationale for the particular policies, others state only the policy. These statements are valuable, however, not only for their implications for AAUP-member institutions, but also for consideration by policy makers and planners in the development of their own policies regarding faculty. The Redbook is available from the AAUP at a minimal charge and is revised periodically. The first edition, appearing in the late 1960's, was revised in 1973 and again in 1977.

8:3.1/77-2

Handbook of Faculty Bargaining, George W. Angell, Edward P. Kelley, Jr., and Associates, 593 pp. (Jossey-Bass, San Francisco).

The purpose of this book is to show how collective bargaining can be a constructive and useful force in a university. It combines the talents and expertise of a large number of people coming from a variety of vantage points, including union leaders and administrators.

The essays in the book are arranged in five sections. The first part reviews the general difficulties and opportunities identified with collective bargaining. It also describes the initial steps necessary in beginning the collective bargaining process.

The second part discusses various aspects of negotiating a contract. The main objective of this section is to review the most constructive methods of handling the actual bargaining.

The third part deals with the long-term administration of the contract. It explores the necessity of handling grievance procedures efficiently. There is also a discussion on planning for future contract negotiations.

The challenges of statewide collective bargaining are discussed in the fourth part. The analysis concentrates on the need to maintain the autonomy of individual universities and campuses and to realize statewide objectives.

The closing part is directed towards the problems of union's effects on budgets, "traditional faculty-administrative relationships" and how to deal with them effectively.

One of the main advantages of the format of this book–a collection of essays–is that it allows each individual to apply his expertise to the topic or topics he knows best. George W. Angell and Edward P. Kelley perceived the collection as "A 'How to' book for administrators" whose main point was that faculty unions can be constructively used for the good of universities when the administration is a prepared and active member in the bargaining. Most of the essays cite specific historical examples to reinforce the materials each author provides.

8:3.1/77-3

Faculty Bargaining in Public Higher Education: A Report and Two Essays, Carnegie Council on Policy Studies in Higher Education, 183 pp. (Jossey-Bass, San Francisco).

This book included reports on two policy studies conducted for the Carnegie Council on Policy Studies in Higher Education, as well as the Council's own conclusions regarding these studies.

The first, conducted by David E. Feller and Matthew W. Finkin, was designed to define and analyze aspects of collective bargaining for faculty which "present themselves as choices of public policy to be resolved in State enabling legislation." The three objectives set by the authors for this study were: (1) identification of the legislative issues in higher education, (2) examination of the methods used by existing legislation to deal with those issues, (3) recommendation of the best ways of dealing with them. The primary focus of the study was on public institutions and upon State legislation governing collective bargaining in these institutions. The issues have been grouped into three categories: the definition of the appropriate bargaining unit, the structure of bargaining, and the scope of bargaining. A number of statutory provisions have been recommended for inclusion in a public employee law. These provisions cover the definitions of a "Labor Organization" or "Employee Organization," a "Supervisor," and "Managerial Employee;" the determination of an appropriate bargaining unit; the bargaining structure; the scope of bargaining; and union security. Tabular summaries are presented of statutory provisions in the 21 States which have statutes of collective bargaining. These summaries cover the criteria used for bargaining unit determination and the scope of bargaining.

The second study included in this book was conducted by Joseph W. Garbarino. The author, one of the leading authorities in the field of collective bargaining, reports on key issues in faculty bargaining which have emerged in actual practice and in collective bargaining legislation in seven major States. The administrative aspects of collective bargaining in New York, New Jersey, Pennsylvania, Massachusetts, Rhode Island, Michigan and Hawaii are summarized and discussed in relation to five problem areas—the identity of the employer in the bargaining structure, the budget process, students role in faculty bargaining, collective bargaining in multi-institutional systems, and the relationship between bargaining units and internal institutional administration.

8:3.1/77-4

Governing Academic Organizations: New Problems, New Perspectives. Gary L. Riley and J. Victor Baldridge, eds., 347 pp. (McCutchan Publishing Corp., Berkeley, Calif.).

This book defines and studies the trends in higher education that have been significant since 1971. The four major ones are: (1) the increasing significance of "external forces," (2) the increase in State control, (3) the growth in faculty unionism, and (4) the end of student revolutionism.

The book is a collection of essays, arranged in five parts. Part I deals with two basic areas, the first of which is an examination of the unique organizational characteristics academic institutions possess. The second is a review of the conflicting opinions about academic diversity, that is, whether or not universities are losing their individuality. Part II explores the effects of a recessionary economic situation on innovation and reform. There are two main schools of thought expressed here – one that a shortage of funds will halt innovative plans, and the other that it will be an incentive for reforms. The third part evaluates the consequences of governmental and institutional controls on campus autonomy. The discussion reflects a widespread belief in the influence these controls have on local systems, but there is not agreement on whether campus autonomy has ended. Part IV deals with the roles of several major institutional groups, including faculty and administrators. Special attention is paid to the changes that have occurred in these roles and to the emergence of any trends. The last part deals specifically with collective bargaining, and, as the editors note, affects everything dealt with in the preceding four parts. The main value of this part is that most of the articles are based on empirical evidence and approach the topic in a variety of ways. For example, there are opinions on the effect of collective bargaining at both the local and system level.

A structure which allows each expert to bring his knowledge to that subject which he knows best makes this book a good comprehensive reference. The major aim of the book is to probe the "new" problems and opinions within academe, and its timeliness is an asset to the planner.

8:3.1/76

Faculty Bargaining, State Government, and Campus Autonomy: The Experience in Eight States, Kenneth P. Mortimer, ed., 106 pp. (Pennsylvania State University, University Park, Pa., and Education Commission of the States, Denver Colo., Report No. 87).

This book contains a collection of papers dealing with the collective bargaining experiences in eight States. The States are divided into two groups. The first is "The Experienced States," which includes Michigan, New Jersey, New York, and Pennsylvania. The second group consists of Hawaii, Massachusetts, Alaska, and Montana, gathered under the heading "Some Newer Experiences."

The collection tends to concentrate on three basic topic areas: "the nature and scope of bargaining legislation, the organization of State government and the structure for collective bargaining in the State, and the nature of systemwide campus authority relations under collective bargaining."

A closing summary by William M. Weinberg, entitled "Patterns of State-Institutional Relations Under Collective Bargaining," compares and evaluates collective bargaining in the eight States. His remarks focus on four areas: the first deals with the general nature of collective bargaining; the second deals with the "four basic structural, State-level patterns of faculty bargaining;" the third discusses the composition of bargaining units; the fourth deals with "the centralization of faculty personnel policies," a trend commonly related to bargaining. The paper closes by exploring "the quality versus homogenization versus institutional distinctiveness dilemma." Six propositions, reflecting the experience prior to September 1975, conclude the report.

This collection can be of value in faculty planning in that it provides case studies which can be useful to persons interested in similarly structured situations, as well as to researchers studying general observations which can have wider application.

8:3.1/75-1

Collective Bargaining, the State University and the State Government in New York, E.D. Duryea and Robert S. Fisk, 51 pp. (State Universi[illegible] of New York, Buffalo).

The purpose of this report is to study the effect of collective bargaining on the relationship between the State government and the State University of New York.

The report is divided into five sections. The first is an historical look at faculty bargaining and its beginnings at SUNY. The second section discusses the methods and sources used in the study. These included many individual interviews. The organizational and legal aspects of collective bargaining at SUNY are reviewed in section three. The fourth section contains analysis and the generalizations which resulted from the findings. The fifth section discusses the implications of the findings for general public policy development. These implications are summarized in seven generalizations: (1) Collective bargaining urges more centralization of control, and thus an increasing loss of autonomy. In this respect, collective bargaining is significant in conducting academic affairs at all institutions. (2) The organizational systems used by most States will lead to "an increasing formalization of relationships." (3) Planning for long range academic goals will be hindered by unions. This is because unions, which are by nature conservative, interpret protecting their members' rights as keeping the status quo. (4) Those unions which have national or statewide affiliations have found it more convenient to avoid normal academic procedures and hence, appeal directly to State executives or legislatures. (5) Collective bargaining undermines existing forms of faculty governance. (6) There is also a danger, as SUNY discovered, that the union will establish a group in the State government who influence all academic decisions, and (7) Collective bargaining also competes with governing boards.

The authors conclude by reaffirming their opinions that autonomy must be maintained and that collective bargaining is going to increasingly influence autonomy. Though focused on New York State, the volume can be extended to apply on a more universal level to other State systems. Maintaining institutional autonomy is a broad concern of most academicians and planners will profit by reviewing this case.

8:3.1/75-2

Faculty Bargaining: Change and Conflict, Joseph W. Garbarino, 278 pp. (McGraw-Hill Book Co., New York).

The author begins his discussion by commenting on the major changes that academic institutions have faced in the past two decades. He also observes that it is academic professionalism that makes professors reluctant to turn to the industrial style of governance, collective bargaining.

He then moves into the changes occurring in faculty representation. Garbarino describes the situation as a combination of management with an administrative hierarchy, individual participation in governance, and bargaining between interest groups. He believes the trend is toward a change in the role of faculty involvement in governance from the traditional to the more structured.

The third chapter deals with the reasons faculty members decide to unionize. Garbarino offers nine propositions which define the existing trends.

An examination follows of the relationships between the various parties involved in collective bargaining. He notes that the methods of industrial bargaining are often inappropriately applied to academic issues. This is especially common when the issue is a shared one, because the goals of academia and industry are different. This chapter closes with four case studies–New York, Michigan, New Jersey, and Hawaii.

The next chapter begins by examining the two main types of faculty unionism, guild and comprehensive. This is related to the main thrust of the chapter, which is an evaluation of the issues of collective bargaining. Garbarino concludes that the trend in higher education is toward a system of mass higher education. He sees the movement providing an opportunity for the less privileged groups to make gains in their positions while the more privileged groups are intent on preserving their position. Faculty unions provide the means, however, and the less privileged groups are tending to be more active.

The book also includes a chapter by Bill Aussieker concerning the higher incidence of collective bargaining in community colleges. Aussieker feels that the community colleges can provide information valuable to 4-year institutions.

Garbarino also explores unionism in Great Britain as a possible model for American institutions. He concludes, however, that the British universities will tend to adopt a system much like the American.

The final chapter is a recapitulation of the more important points. Garbarino concludes that universities have more to fear from environmental and other outside influences, which unions are a reaction to, than from unions themselves.

8:3.1/75-3

Unions on Campus, Frank R. Kemerer and J. Victor Baldridge, 248 pp. (Jossey-Bass, San Francisco).

The authors, focusing primarily on the *impact on governance* of faculty bargaining, predict that faculty bargaining will have an ever-increasing effect on academic governance. This book discusses some of the findings which have led to this prediction—findings drawn from a major research effort, the Stanford Project on Academic Governance, begun in 1971. Their discussion commences with a summary of facts about faculty unions. A preview of 27 conclusions serves as an outline for the six following chapters.

Among these conclusions, the authors cover some of the following areas: The compatibility of collective bargaining, or lack thereof, with the "collegial," "political" or "bureaucratic" concepts of campus governance, the critical forces promoting the growth of unions and the factors which influence the effect of bargaining on governance, the progress unionization has made in academe, areas where bargaining has made a positive impact and where it has resulted in negative consequences, the relationship of unions and faculty senates, the technical burdens of bargaining on administrations and the resultant changes in the latter, and directions and implications of unionization for the future. The authors examine patterns, causes and the scope of collective bargaining. Expanded chapters deal with the consequences of faculty bargaining on personnel decisions, academic senates, and campus administration. The final chapter offers an important evaluation of faculty collective bargaining. It begins with a summary of the authors' belief in the political nature of faculty bargaining which conflicts with the academic life in terms of decision-making, evaluation, and other areas of concern to an academic institution. The authors end with discussion on the potentially positive and negative aspects of collective bargaining, which leads them to "call for statesmanship" and joint participation by faculty members in working for academic goals.

8:3.1/73

Collective Bargaining Comes to Campus, Robert K. Carr and Daniel K. Van Eyck, 314 pp. (American Council on Education, Washington, D.C.).

The authors begin with a brief history of the development of collective bargaining nationally and in academia. They then proceed to explore the reasons why professors turned to collective bargaining–dissatisfaction with various aspects of academic life being cited as the primary reason. The authors make no behavior generalizations, stating that sufficient data is not yet available upon which to make any judgments.

The authors next turn to the legal aspects of collective bargaining. They deal with the conflicts that arise between legal requirements and university goals. A point which is dealt with in detail is the definition of an appropriate bargaining unit, because "there is probably no aspect of the total process of collective bargaining that poses a greater risk to the long-term interests of the faculty . . . "

The authors continue with a discussion of the various organizations in existence which can be selected as bargaining agents. The three major groups, the National Education Association (NEA), American Federation of Teachers (AFT), and American Association of University Professors (AAUP), are discussed in detail.

The specifics of the process of collective bargaining are also explored. The questions of who does the bargaining, how an agreement is negotiated, and the ways faculty can influence a decision are set forth. Attention is paid especially to the effectiveness and ramifications of a strike. The book also examines the administrative aspects of collective bargaining.

Finally, the authors offer their evaluation of collective bargaining. They explore the changes that bargaining has brought about, noting both positive and negative ones, and speculate about the future of collective bargaining and its increasing hold in academia. They reflect on the dangers of universal acceptance of unionization among college campuses.

Throughout the book, the authors make reference to case studies, court records, and survey findings to substantiate their own interpretation of the faculty bargaining story, but avoid *focusing* on and *developing* case studies, statistical analysis, and collection of facts.

This book offers a broad view of collective bargaining in 4-year institutions through June, 1972. Though an early volume, the authors do provide "an orderly and generally dispassionate account" from an insightful historical perspective which will be found quite useful by future observers of faculty bargaining.

3.2 Faculty Assessment and Rewards

8:3.2/76-1

Faculty Development Practices in U.S. Colleges and Universities, John A. Centra, 88 pp. (Educational Testing Service, Princeton, N.J.).

Centra presents the findings of a study begun in November of 1975, supported by a grant from the Exxon Education Foundation, of the kinds and extent of programs for faculty development in American institutions of higher education. "Faculty development," as used in this study, refers to "... the broad range of activities institutions use to renew or assist faculty in their varied roles." A questionnaire survey of 93 doctoral-granting universities, 315 four-year colleges and 326 two-year colleges examined 45 development practices grouped in the following categories: (1) workshops, seminars, or similar presentations; (2) analysis or assessment procedures; (3) activities that involved media, technology, or course development; (4) institution-wide policies or practices, such as sabbatical leaves or annual teaching awards; and (5) a miscellaneous set of five practices. The author discusses the various development practices, their estimated use and effectiveness, the kinds of faculty members involved in them, their funding and organization, and the types of development programs reported. The final chapter summarizes the major findings and discusses some implications.

Appendices include a copy of the actual survey questionnaire and an example of a long-term growth contract used by one college. Tables are included throughout the text which summarize the use (or estimated use), estimated effectiveness, and funding of the various development activities.

This study is of value for its accounting of both faculty development practices in use among American institutions and their estimated effectiveness, as viewed by the coordinators of such programs at the institutions.

8:3.2/76-2

Mutual Benefit Evaluation of Faculty and Administrators in Higher Education, William J. Genova, Marjorie K. Madoff, Robert Chin, and George B. Thomas, 222 pp. (Ballinger Publishing Co., Cambridge, Mass.).

The authors discuss the need for programs for the evaluation of faculty, administrators and instruction in higher education and some of the issues raised in setting up such programs. Specific recommendations for the establishment or modification of evaluation programs are offered. The book contains numerous sample rating scales from various sources, which are used for the evaluation of faculty by students, peers, administrators, and self. It also includes samples for the evaluation of courses and administrators. Also discussed is faculty evaluation in competency-based educational programs. A "Faculty Evaluation Programs Inventory" is offered in the form of a questionnaire to aid in the appraisal of an institution's existing program–covering such areas as (1) purpose of faculty evaluation; (2) sources and kinds of information yielded by the evaluation procedure; (3) flexibility, length, format, scale range, appropriateness, validity, reliability, situational factors, interaction effects, acceptance by those involved, timing and procedures of rating scales; and (4) feedback to all those concerned.

This book could be a useful guide for establishing or assessing evaluation programs. The sample rating scales included are intended to be models–to be modified to fit the particular needs of an individual institution and the authors provide the reader with the rationale and direction for this modification. The authors' approach to an evaluation program is a comprehensive one. They begin with a discussion of the purpose of the evaluation and of the need for clear and precise definitions of the information to be gained from the evaluation. The selection, modification or creation of the instrument(s) and/or procedure(s) which can best supply the needed information is then described. The next step is the actual implementation of the program. Finally, the authors provide a systematic evaluation of the evaluation procedure itself.

8:3.2/75

Toward Faculty Renewal: Advances in Faculty, Instructional, and Organizational Development, Jerry G. Gaff, 238 pp. (Jossey-Bass, San Francisco).

The purpose of this book is to analyze the efforts made by institutions of higher education to improve the quality of teaching and learning. The author begins with a description and comparison of existing programs for development of faculty, programs for improvement of instruction and organizational development, and considers each as a separate topic. He then discusses the integration of these three major types of development which actually occurs. Alternative ways of organizing for this development are described including organization through administration, faculty groups, specialized appointments, special short-term projects, and instructional-improvement centers (including multi-campus centers). The politics, financing, staffing and evaluation of improvement centers are also considered. The final chapter presents the prospects for future development. The author discusses the growing movement of instructional improvement activities, especially of broader than institutional-based programs, and future needs.

Also included in this book is a directory of programs of instructional improvement at over 200 colleges and universities throughout the country whose efforts are discussed in the book, which could prove to be quite useful to researchers in the field. The book is especially useful during this time when few new members are being added to faculties, for it recognizes the need for improvement from within.

See also: 5:2.2/76 Publication, Teaching, and the Academic Reward Structure, Howard P. Tuckman, 122 pp. (Lexington Books, Lexington, Mass.).

9

Finance

David W. Breneman

Higher education finance involves both descriptive and judgmental features, i.e., who pays and who should pay. The descriptive side focuses on how the costs of higher education are met by support provided by the several levels of government (Federal, State, and local), from private sources through contributions and bequests, and from student payments of tuition and fees. The various forms in which support is provided are also included in the study of finance, e.g., grants, loans, tax subsidies, and payments to institutions or to students.

The judgmental side of finance involves analyses of how the cost burden should be distributed among the several sources. In this sense, higher education finance is a component of the broader field of public finance. Criteria commonly applied to cost distribution are efficiency and equity, the first through analysis of individual versus societal benefits and costs; the second through analysis of the distribution of these benefits and costs among the members of society.

The topic—finance—is limited in this bibliography to the financing of *institutions* of higher education. The emphasis is on the aggregate finance of all or major groups of colleges and universities, not on the financial management of individual institutions. This focus excludes the financing of students, which is separately treated in Topic 21: Student Financial Assistance; studies related to finance, such as the rate of return to investment in college education, which are part of Topic 5: Economics; and studies of institutional program costs, budgeting, and resource allocation which have a separate section, Topic 18: Resource Allocation and Budgeting.

Finance is organized into six component parts:

General. These volumes investigate the financing of higher education generally and are not limited to a particular level of government, type of institution, or level of instruction.

Federal Role. These studies concentrate on the Federal role in higher education finance, without reference to a particular type of institution or level of instruction.

State Role. This collection concentrates on the State role in higher education finance, including studies of public higher education systems but excluding special topics such as State support for private colleges.

Studies of Higher Education Segments. This section covers four segments of higher education finance, including: graduate education, medical education, private colleges and universities, and community colleges. This section is generally not limited to a particular level of government.

Financial Condition of Institutions. Investigations of the financial status of institutions are covered here, along with the possibility of remedial action.

Data Sources. Sources of statistical data on college and university finance are treated.

TOPIC ORGANIZATION

9: Finance

- 1.0 General
- 2.0 Federal Role
- 3.0 State Role
- 4.0 Studies of Higher Education Segments

  - 4.1 Graduate Education
  - 4.2 Medical Education
  - 4.3 Private Colleges and Universities
  - 4.4 Community Colleges
- 5.0 Financial Condition of Institutions
- 6.0 Data Sources

1.0 GENERAL

9:1.0/73-1

Financing Postsecondary Education in the United States, National Commission on the Financing of Postsecondary Education, 442 pp. (U.S. Government Printing Office, Washington, D.C.).

The National Commission on Postsecondary Education was mandated by Congress as a result of the acrimonious debates that accompanied the Education Amendments of 1972, particularly over the need for Federal institutional aid. The 17-member Commission included 2 U.S. Senators and 2 U.S. Congressmen. Although the Commission did not present its own set of financing recommendations, its members argued that their major contribution was the creation of an "analytical framework" for evaluating alternative financing schemes.

This framework included the specification and operational definition of eight objectives for postsecondary education–Student Access, Student Choice, Student Opportunity, Educational Diversity, Institutional Excellence, Institutional Independence, Institutional Accountability, and Adequate Financial Support. Also included was a simple, interactive computer model of the student access and choice objectives, drawing on econometric estimates of the effect of price on student decisions.

The report contains detailed chapters that describe fiscal 1972 financing patterns and evaluates their success in achieving the eight objectives. In view of these objectives, the Commission evaluated eight finance recommendations using the computer model to simulate the impact of the proposals on student enrollment patterns and institutional finance. (Institutions were grouped for analysis by Carnegie Commission classification.)

Separate chapters review the incidence of financial distress among institutions and discuss procedures for developing standard methods for institutional cost determination and data reporting. The book ends with a short section of conclusions and recommendations, coupled with individual comments by Commission members.

Several staff reports were published separately. Of most interest to those who wish to learn more about the computer model is *A Framework for Analyzing Postsecondary Education Financing Policies*, a staff report by Daryl E. Carlson, James Farmer, and George Weathersby (U.S. Government Printing Office, 1974)

The Commission's impact on Washington policymaking has been limited; the computer model has not been used extensively, and many of the recommended data bases have not been developed. The Commission's work did help to introduce certain analytical techniques and findings into the policy arena, however, and several States have emulated their procedures in conducting State financing studies. Although the data are outdated and Federal aid programs and policies have changed in intervening years, the report remains "must" reading for those who want a comprehensive grasp of the way postsecondary education is financed in the United States.

9:1.0/73-2

Higher Education: Who Pays? Who Benefits? Who Should Pay?

Carnegie Commission on Higher Education, 190 pp. (McGraw-Hill Book Co., New York).

Published in 1973 at roughly the same time as the Committee on Economic Development report on *The Management and Financing of Colleges* (CED, 1973), this Carnegie Commission book was caught up in a divisive and hotly contested debate over tuition policy that distracted attention from the book's more enduring contribution. In this book, the Commission carefully documented the sources of educational revenue, including Federal, State and local governments, private philanthropy, and private tuition payments. A brief investigation of the distribution of benefits of higher education is also included. The Commission drew on the analysis and findings to present several recommendations for gradual shifts in the payment burden to bring the distribution of costs more in line with the distribution of benefits.

Among these recommendations, however, two received the most attention. First, the Commission urged "a redistribution of student subsidies from higher to lower income groups," and second, "a . . . modest and gradual rise in public as against private tuition." The first was to be accomplished by a gradual increase in tuition charges to those able to pay, and redistribution of public savings to lower income students in the form of increased student aid. The second called for modest increases in public 4-year colleges and universities, rising until tuition was roughly equal to one-third of educational costs. The Committee on Economic Development report urged a much larger and more rapid increase in public tuition, and both reports were lumped together and attacked by public college and university representatives strongly opposed to increased public tuition. Their attack was sufficiently strong that the Commission issued a supplementary report, *Tuition* (Carnegie Foundation for the Advancement of Teaching, 1974), clarifying its earlier recommendations and updating the data on which they were based.

It is unfortunate that the public discussion of this book became so narrowly focused, since it represents one of the most concise yet comprehensive treatments of higher educational finance in print. Much briefer than the report of the National Commission on Financing Postsecondary Education, this should be the first book read by those seeking to understand the distribution of costs and benefits generated by the United States' method of higher education finance. Detailed tables are kept out of the text, rendering it more readable, but are contained in a statistical appendix.

9:1.0/69

The Economics and Financing of Higher Education in the United States, A Compendium of Papers Submitted to the Joint Economic Committee, U.S. Congress, 94 Cong. 1 Ses., 686 pp. (U.S. Government Printing Office, Washington, D.C.).

Most literature on higher education finance has a very short half-life, rapidly becoming obsolete as expenditure patterns, policies, and programs change. As a result, this finance bibliography contains materials written largely within the last five years. However, this collection of essays is one of the few exceptions, for most of the articles are concerned with issues of continuing importance. Their value lies in the approach to analysis and in the questions asked, rather than in any particular solution proposed. Most still warrant careful reading.

The book approximates an encyclopedia on the economics and financing of higher education, and the introductory overview by Roger E. Bolton remains one of the more comprehensive studies available in this field. The papers in Part 2 examine two of the issues most basic to formulating economic policy in higher education; the efficiency of expenditures and the distribution or equity impact of costs and benefits. Part 3, which focuses on economic efficiency, examines the factors that determine the quality of education colleges and universities offer and discusses the factors that influence short-run and long-run variations in institutional costs. The role of enrollment growth and class size are considered, as are the centralization of university functions and the year-round use of university facilities.

Part 4 appraises the future structure of higher education and examines the long-run perspective. A series of projections into the latter part of the 1970's is presented for such pertinent variables as enrollment, staff, expenditures, and degrees granted. Because of the significant portion of total higher education income expended on faculty salaries, one of the papers in this section is devoted to the academic labor market. The topics in Part 5 deal with the implications of increasing demands, higher costs, and pressures for change currently experienced by private colleges and universities. One topic, based on a sampling of private universities, examines the trends in expenditures and income over the past decade. The other topic includes estimates of future expenditures reported by 30 private colleges.

The final section of the book deals with the financing of higher education in the 1970's, including prospects for financing higher education from sources other than the Federal Government and the major issues and various questions that arise in connection with Federal aid to higher education. The subject matter includes the basic decisions that must be made in determining the optimum form of Federal aid; the benefits and costs of a number of forms of student aid; the early findings of the Carnegie Commission on Higher Education; and strategies for securing Federal aid.

Authors include Roger Bolton, Howard Bowen, William Bowen, Allen Cartter, André Daniere, Paul Feldman, Roger Freeman, Lee Hansen, Seymour Harris, Hans Jenny, Clark Kerr, Selma Mushkin, Alice Rivlin, and many other nationally known experts in the economics field. Readers interested in the intellectual development of this subject will find much to ponder in these decade-old writings.

See also: 11:4.0/73 The Management and Financing of Colleges, 94 pp. (Committee for Economic Development, New York).

2.0 FEDERAL ROLE

9:2.0/78

Federal Assistance for Postsecondary Education: Options for Fiscal Year 1979, Congressional Budget Office, 67 pp. (U.S. Government Printing Office, Washington, D.C.).

The Congressional Budget and Impoundment Act of 1974 created, among other things, the Congressional Budget Office (CBO), devoted to dispassionate analysis of budgetary issues confronting the Congress. Because the new agency is mandated to provide objective and impartial analyses, no recommendations are contained in their reports. The CBO has an analytical unit responsible for covering several human resource areas, including higher education, employment, and training programs. CBO budget issue reports such as this one on higher education should be forthcoming each year.

The agency is closely linked to policy, which means that each report concentrates on subjects of current congressional interest. Since the dominant higher education issue for fiscal 1979 has been the proposed legislation for a tuition tax credit and the Administration's counterproposal for middle-income student assistance, the report deals with these issues.

The report first discusses Federal goals in postsecondary education, and the effectiveness of current programs in meeting those goals. The chapter on major legislative proposals for fiscal 1979 examines the tuition tax credit and the House and Senate versions of the middle-income assistance proposals. The distribution of benefits by income class are contrasted, and projected budget costs compared. Appendix tables provide much useful and more detailed information on the costs and distribution of the various proposals, as well as a technical discussion of the method used to compute tax credit estimates.

The CBO distributes its reports free of charge to interested parties. Individuals concerned with Federal higher education policy can write and ask to be included on the mailing list for reports in that subject area.

9:2.0/75

The Federal Role in Postsecondary Education: Unfinished Business, 1975-1980, Carnegie Council on Policy Studies in Higher Education, 97 pp. (Jossey-Bass, San Francisco).

This report of the successor organization to the Carnegie Commission is primarily concerned with existing aid programs that, in the Council's view, need more adequate funding. It states that the Federal Government has the following responsibilities with regard to higher education: (1) encouragement of equality of opportunity; (2) support of creative research capacity and its development; (3) distribution of opportunity and creative capacity among the 50 States; and (4) in affiliation with the States, the assurance of a reasonable degree of overall institutional health.

The Council suggests three ways to improve these areas: the establishment of a National Student Loan Bank to reduce the serious difficulties of some student loan programs, a matching program with the States of Tuition Equalization Grants to involve the State in support of private institutions, and a program of support for major research libraries, a national asset currently in financial trouble.

The National Student Loan Bank would consist of a "nonprofit corporation to be chartered by the Federal Government and financed by the sale of governmentally guaranteed securities" with no financial need test required for student eligibility. The Tuition Equalization Grants would provide matching Federal funds for one-half the cost of a State tuition equalization grant of about $750 for all undergraduate students attending private institutions. The support to research libraries would require an initial appropriation of $10 million. The Council recommends that the funds resulting from the phasing down of veterans educational benefits (G.I. Bill) be utilized for these purposes.

Also covered are: national purposes and the Federal role, particularly recent changes in Federal funding, equality of opportunity, and attaining a national balance; student aid and related programs, including discussion of Basic Educational Opportunity Grants, Supplementary Educational Opportunity Grants, State Student Incentive Grants, student loan programs, cost-of-education supplements, tuition equalization, part-time students and the College Work-Study program; Federal support of vocational education; and Federal support of research and graduate education. Statistical tables and brief summaries of some of the above student aid programs, plus the Student Loan Marketing Association and the National Direct Student Loan program are also included.

9:2.0/71

Financing Higher Education: Alternatives for the Federal Government, M. D. Orwig, ed., 390 pp. (American College Testing Program, Iowa City).

The 13 essays in this volume capture excellently the debates current in the late 1960's-early 1970's regarding the changing patterns of higher education finance, and in particular, the rapidly evolving role of the Federal Government. Since the framework of current Federal policy was largely established in those years, these essays still have pertinence today. In fact, most of the concerns that confront the higher education community now were recognized then, and many of the financing options currently being discussed are covered in this book. Consequently, it merits reading not only as a germane treatment of still lively issues, but for the insights it can provide on the subtle shifts in attitude and in argument that have occurred during the 1970's.

The first three essays discuss the economic and social background against which financing policies must be developed. Chapters 4-6 contrast diverse views of who should pay—students and parents, society, or various combinations for sharing the burden. The next section focuses on alternative Federal strategies, including discussion of student loans, tuition tax credits, institutional support, categorical grants and revenue-sharing with the States, and an eclectic approach drawing on several of the above. With few exceptions, these represent the basic strategies still under discussion today.

3.0 STATE ROLE

9:3.0/74-1

Alternative Tuition Systems, Robert F. Carbone, 146 pp. (American College Testing Program, Iowa City).

This work outlines five models for innovative methods of tuition payment by students to public institutions of higher learning. It was prompted, in part, by uncertainties arising from recent court decisions and legislative actions regarding residency, age of majority, and voting rights. "Its primary purpose is not only the identification of 'alternatives to the current system of differential tuition in public colleges and universities' but also an analysis of the 'legal, economic, political, and educational implications of these alternative tuition assessment models,' as seen by four consultants, each qualified by virtue of training and/or experiences to bring special insights to bear on the models."

A chapter is devoted to a description of each of the five tuition models, but does not contain recommendations for their immediate adoption. Each chapter ends with a brief commentary written from an economic, educational, political, and legal perspective, prepared respectively by Carol Van Alstyne, Joseph F. Kaufman, Frank B. Pesci, and Allan D. Vestal. The models are: the Nonresident Student Surcharge Model, in which tuition is the same for residents and nonresidents alike, but at the time of initial matriculation, the nonresident is charged a substantial one-time fee, payable over time, corresponding to the State subsidy that resident students receive; the Resident Student Fee Remission Model, in which tuition for both residents and nonresidents is set at full cost of instruction, but graduates of in-state high schools receive a tuition voucher that reduces the direct costs while nonresidents pay a much higher fee; the Sliding Scale (Multiple Criteria) Model, which utilizes a number of weighted residency criteria to sort students into nine tuition levels that correspond to varying degrees of resident/nonresident status; the Sliding Scale (Single Criterion) Model, which sorts students into five tuition levels according to the duration of their residency in the State; and the National Tuition Bank Model, which institutes educational subsidies, provided by all States and/or the Federal Government, for students who attend public institutions in nonresident States. It also describes an "exchange bank" which would channel these subsidies directly to those institutions that enroll nonresident students.

The five appendices contain: (1) a summary of traditional reasons for diversifying the student body at publicly supported institutions, i.e., the benefits to society, the institution, and the student; (2) the legal issues pertaining to the problem of resident and nonresident tuition, addressing the following issues and how they have been met by recent court decisions: May the State constitutionally distinguish between residents and nonresidents in terms of tuition fees? What are the criteria for determining residency? May the State require that a student reside in the State for a substantial period of time before being granted residency status, thus allowing him lower tuition rates? (3) an explanation of the Blackerby "multiple criteria assessment model" and (4) the Hanson-

Liethen "sliding scale" tuition model, as well as an investigation of (5) the "residency and university admission problems in the Federal Republic of Germany," which contrasts Germany and the United States in their tuition and enrollment systems and the effect on legal, social, and philosophical issues.

9:3.0/74-2

Exploring the Case for Low Tuition in Public Higher Education, Kenneth E. Young, ed., American Association of State Colleges and Universities, American Association of Community and Junior Colleges, National Association of State Universities and Land-Grant Colleges, 184 pp. (Available from American College Testing Program, Iowa City).

This report is a collection of six papers resulting from a 1974 Invitational Seminar on the subject of low-tuition. The various associations which have sponsored these papers represent both public and private nonprofit higher education. The purpose of this report, both the papers and the appendices, is to explore the intellectual arguments for the low-tuition principle and to identify possible future lines of research into the economic, social and political consequences of changes in the current tuition levels.

The first, "Financing Higher Education: The Current State of the Debate," written by Howard R. Bowen, deals with six recent reports—the Carnegie Commission on Higher Education, the Committee for Economic Development, the National Board on Graduate Education, the National Commission on the Financing of Postsecondary Education, the National Council of Independent Colleges and Universities, and the Special Task Force to the Secretary of the Department of Health, Education, and Welfare—and their evaluation of the issues of efficiency, tuition levels, long-term student loans, and the competitive position of the private sector. Mentioned also are benefits and costs, and alternative approaches including loans, tax credits, institutional support, direct grants, and revenue sharing with States.

Carol Van Alstyne's "Tuition: Analysis of Recent Policy Recommendations" examines the three main arguments of those advocating increased public tuition. She labels their analysis of financial distress as too pessimistic in outlook and too narrow in perspective. Secondly, she says, their "conclusions about the present distributional inequity and the inefficiency of public support for higher education are based on an incomplete analysis of the issues and a confusion over goals." Lastly, she says that too much emphasis is placed on competition for enrollment as the cause of the financial distress of private institutions.

"Equity and the Middle Class," by Larry L. Leslie and Gary P. Johnson, examines the Carnegie Commission and the Committee for Economic Development recommendations to determine their impact by income level. They argue that the proposals "to increase public tuition and expand grant programs for low-income students would result in a regressive distribution of the burden, with the middle-income students and their families faring badly."

Representative James G. O'Hara, (D.-Mich.) then Chairman of the House Education Subcommittee, argues that what is needed is a well-financed, nationwide system of low-tuition or no-tuition State universities, colleges, and community and junior colleges, as well as independent institutions.

G. Theodore Mitau, then Chancellor of the Minnesota State College System, "raises questions about the 'market model' which would provide funds to students and let them shop for higher education," and discusses some possible unforeseen, ill effects of higher tuitions. Dr. Harold L. Enarson, President of Ohio State University, calls upon "public institutions and their supporters to work to preserve low tuition and educational opportunity and for a new agenda in higher education, including the degree of response to emerging needs."

The appendices include: the American Council on Education Statement on Tuition Policy, the Association of American Colleges Statement on Tuition Policy, a Joint Statement by the American Association of State Colleges and Universities and the National Association of State Universities and Land-Grant Colleges, plus 12 recommended guidelines for Public Support of Community and Junior Colleges.

See also: 5:5.0/69 Benefits, Costs, and Finance of Public Higher Education, W. Lee Hansen and Burton A. Weisbrod, 114 pp. (Markham Publishing Co., Chicago).

15:1.2/76-2 The States and Higher Education: A Proud Past and a Vital Future, and commentary Supplement, Carnegie Foundation for the Advancement of Teaching, 94 and 66 pp. (Jossey-Bass, San Francisco).

4.0 STUDIES OF HIGHER EDUCATION SEGMENTS

4.1 Graduate Education

9:4.1/78

The State of Academic Science, Vol. 1: The Universities in the Nation's Research Effort, Bruce L. R. Smith and Joseph J. Karlesky, 250 pp. (Change Magazine Press, New Rochelle, N.Y.).

Background Papers, Vol. 2, Smith and Karlesky, 192 pp. (Change Magazine Press, New Rochelle, N.Y.).

This 2-volume set is the most recent and comprehensive treatment of the health of scientific research within the universities. The study was financed by the National Science Foundation and administered through the Association of American Universities. Conducted by two social scientists with the assistance of a 10-member advisory group and several outside consultants, it involved analyses of existing data as well as visits to 36 universities. For anyone concerned with the research capability of the nation's universities, these volumes are essential.

Volume 1, published in 1977, discusses trends in the financial support and performance of academic research, drawing heavily on data collected by NSF. The changing relationship of universities to other research performers (non-profit institutes, government in-house laboratories, industry) is examined, as are current developments in selected fields—chemistry, physics, mathematics, life sciences, and engineering. Among the emerging issues noted are: declining support for, and deteriorating quality of, research instrumentation and other capital investments; manpower problems related to supply-demand imbalances for new Ph.D.'s; deteriorating government/university relationships; disputes over the way to compute and allocate overhead costs; and changing relationships between the university and State government. The concluding section contains recommendations for policy changes.

Volume 2, published in 1978, contains five more detailed research papers on university research. They are "Forces Affecting the Research Role of Universities," Dael Wolfle; "The Changing Relationships: Universities and Other R & D Performers," Walter S. Baer; "Targeted Research: An American Tradition," Carl M. York; "Effects of Recent Trends in Graduate Education on University Research Capability in Physics, Chemistry, and Mathematics," David W. Breneman; and "Accountability and the Research Universities," Sanford A. Lakoff. (For a complete annotation of Volume 2, see 17:0/78-1).

9:4.1/74

Federal Policy Alternatives Toward Graduate Education, National Board on Graduate Education, Commission on Human Resources, National Research Council, 127 pp. (National Research Council, Washington, D.C.).

This 1974 report contains a comprehensive discussion of the past and current Federal role in financing graduate education. Since there have been few significant changes in Federal policy toward graduate education since the report was issued, the document is still useful.

The first chapter provides an overview, together with the National Board's recommendations. The second chapter provides a brief history of Federal support for graduate education, while the third chapter discusses the problems facing graduate education, including over-production of Ph.D.'s, declining financial support, difficulties in promoting access for women and minorities, complexities of institutional cost analysis and accountability, and the difficulties of adjusting to a "steady-state" environment.

The next three chapters discuss issues of graduate student support, research support, and institutional support, including both analysis and recommendations. The absence of coordinated Federal policies and of adequate data bases for policy analysis is considered in the seventh chapter, while a supplement by Frederick Balderston comments in greater detail on the difficulties of cost analysis.

The appendix contains several detailed statistical tables on time trends in support for university research and graduate programs. Many of these data are collected annually by the National Science Foundation, and the tables could be easily updated by referring to various NSF publications.

This report is out of print, but can be ordered from the ERIC Clearinghouse for Higher Education at One Dupont Circle, Washington, D.C. Copies were distributed to the offices of most college and university presidents and to graduate deans, and thus should be available on most university campuses.

4.2 Medical Education

9:4.2/76

Progress and Problems in Medical and Dental Education: Federal Support Versus Federal Control. Carnegie Council on Policy Studies in Higher Education, 178 pp. (Jossey-Bass, San Francisco).

In 1970, the Carnegie Commission, predecessor of the Carnegie Council, issued a report on medical and dental education entitled *Higher Education and the Nation's Health.* That report was consulted in drawing up a major piece of Federal legislation, the Comprehensive Health Manpower Act of 1971, which created, among other things, capitation grants to medical and dental schools, bonuses to schools that expanded enrollments, grants and loans for students, support for construction and start-up grants for new schools, and support for training of physician's and dental assistants.

Much progress was made over the intervening years but problems continued, including heavy reliance on foreign medical graduates, geographic maldistribution of physicians, and excessive specialization in medical practice. Proposed changes in legislation to cope with these problems prompted this second Carnegie Council volume, based on concern that new legislation would involve cumbersome and complex Federal controls over medical education. The preface notes that, "This report urges a policy of sustained and consistent Federal support of medical and dental education, along with the provision of strong incentives toward needed changes, rather than excessive controls. It is a report in the tradition of the Carnegie Commission's 1970 report, but with central orientation toward the more complex legislative issues that have emerged in the last six years."

The book begins with three warnings and five recommendations. The warnings are that the nation is in danger of starting too many new medical schools, that Federal attempts to alter geographic distribution and to counter excessive specialization through controls will be less effective than policies emphasizing incentives, and that the time has come to quit relying on foreign medical graduates to meet the need for physicians. The recommendations call for a variety of changes in Federal financing policies related to these problems.

Other chapters include a summary of the 1971 legislation and a discussion of the projected labor market for doctors and dentists, Federal capitation payments and related policies, the National Health Service Corps, and the need for new medical and dental schools and for area health education centers. A chapter on State support for medical and dental education completes the text, while two appendices provide supporting statistical tables and projections of physician supply.

9:4.2/71

Financing Medical Education: An Analysis of Alternative Policies and Mechanisms, Rashi Fein and Gerald I. Weber, Report Prepared for the Carnegie Commission on Higher Education and the Commonwealth Fund, 279 pp. (McGraw-Hill Book Co., New York).

While the Carnegie Council volume annotated above concentrates on national problems confronting medical and dental education in the aggregate, and focuses particularly upon Federal policy, this volume emphasizes the microeconomic aspects of medical education. One of the book's main contributions is to explore and develop ideas about the behavioral responses to alternative financing schemes of students and of those who manage medical schools. It examines the production processes within medical education, investigating statistically the relationships between financial inputs and outputs such as educated personnel, research, and service. Since so many of the problems in this complex area of professional education involve unanticipated consequences of financing policies, this volume is a valuable complement to the more policy-oriented publications of the Carnegie Commission and Council.

The book is an outgrowth of a 1967 conference held at the Brookings Institution, and was completed prior to enactment of the Comprehensive Health Manpower Act of 1971. Since that act did so much to change the incentives in medical and dental education, particularly by providing support for expansion, some of the book's findings are outdated. The analytical approach taken and the issues considered are still germane, however, and students of this subject should consider the book essential reading. It can be viewed largely as a contribution to the broader subject of the microeconomics of non-profit institutions and of the public sector.

The chapters include a detailed look at the medical school, how it functions and how it is financed, and at medical students, who they are, how they decide to apply, and how they progress from M.D. candidate to intern to resident. The factors that influence decisions on medical specialty and location are investigated. The financial roles of State and Federal Governments are each accorded a chapter, and the book ends with a discussion of policy alternatives. Five appendices provide useful information on data sources, joint production and costs in medical schools, rates of return to medical education, statistical equations, and State support of private medical schools.

4.3 Private Colleges and Universities

For related policy issues see Topic 11, Subtopic 4.0: Financial Policy.

9:4.3/78

Public Policy and Private Higher Education, David W. Breneman and Chester E. Finn, Jr., eds., 468 pp. (The Brookings Institution, Washington, D.C.).

This volume provides a comprehensive and up-to-date discussion of the prospects for private higher education in the 1980's and the variety of State and Federal policies that might be pursued in order to maintain a financially healthy private sector. The philosophical questions as well as the practical and political problems are discussed. Ample data, including demographic trends, enrollment patterns over the 25-year period, the growth of the private sector of higher education, and trends in tuition and other charges to students are supplied.

The book combines economic and political analysis of a variety of options, and in the final chapter of the book the editors argue for the creation of a national student market place, characterized by the following requirements:

- State and Federal financing policies must be purposefully linked;
- Price barriers to interstate mobility of students must be reduced;
- Federal programs must continue their emphasis on need-based student aid rather than direct institutional aid; and
- Tuition differentials between public and private sectors must be stabilized or narrowed.

A sharp increase in the Federal State Student Incentive Grant Program is proposed, together with legislative changes that would make interstate mobility a grant condition. In essence, the Federal Government would offer to finance a percentage of increased State student aid programs. If States choose to reduce their direct support of public campuses in response to this increased student aid, the result would be higher public tuition levels and a narrower tuition gap.

The political analysts writing in the book doubt that such a major transformation in the way States finance higher education is likely to come about, and thus a variety of "second best" proposals are advanced and evaluated. "Second best" in this context refers to policies that can be implemented by the States or Federal Government acting alone rather than in concert.

Chapters 1 and 10, written by the editors, are intended for a general audience, and contain a summary of the main financial problems confronting private higher education, along with proposed solutions. The intervening eight chapters contain more detailed analyses of the private college dilemma. Susan C. Nelson presents a thorough treatment of financial trends and issues in the private sector, based largely on time series analysis of institutional financial data collected by the U.S. Department of Health, Education, and Welfare, Office of Education. Michael S. McPherson provides an incisive discussion of the literature covering demand for higher education and carefully assesses the significance of price and non-price factors. Lawrence E. Gladieux and Thomas R. Wolanin analyze the Federal political scene, with special emphasis on the developments between the Education Amendments of 1972 and 1976. Robert W. Hartman explores Federal policy options, including the proposal for a Federal-State matching grant program to increase need-based portable student aid. Emil M. Sunley, Jr. analyzes Federal and State tax policies that affect higher education, concentrating on the deduction for charitable contributions and on proposals for a tuition tax credit.

Two chapters focus on State policy. Robert O. Berdahl discusses the politics of public-private relationships, drawing on case studies of California, New York and Ohio. Colin C. Blaydon investigates the financial possibilities open to States that wish to increase support for the independent sector of higher education. And two college administrators, David G. Brown and Thomas E. Wenzlau, provide the college president's view of the importance of various existing and proposed State and Federal programs.

Most chapters in the book are followed by appendices providing extensive tables and other forms of data. The text is generously annotated with references and extended explanation and comments. The volume is generally objective and gives not only a broad overview but an in-depth consideration of basic issues.

Although most of the issues discussed in the book are pertinent to 2-year and 4-year colleges as well as universities, the book's main emphasis is on undergraduate education financing. All papers were commissioned for this book, and were the subject of a 2-day invitational conference at the Brookings Institution in November, 1976.

9:4.3/77

The States and Private Higher Education: Problems and Policies in a New Era, Carnegie Council on Policy Studies in Higher Education, 206 pp. (Jossey-Bass, San Francisco).

The plight of the private sector of higher education is the subject of this Carnegie Council volume, with particular emphasis on State policies that can help maintain the dual system, public and private, through the difficult 1980's. This study is unique in that it was the first one "specifically designed to assess the impact of existing State policies toward private higher education on enrollments, finances, autonomy, academic freedom and other conditions of private institutions."

The book provides a brief but thorough discussion of the economic position of the private sector in terms of enrollment, the tuition gap, financial status, vulnerability, and the future outlook. This discussion is followed by a description of several current State aid programs. An assessment of the impact of general State programs indicates that they have had a much greater effect on students than upon institutions. The pattern of operating deficits characteristic of the early 1970's seems to have been reversed in those States with more extensive State aid programs. Attention is given to such matters of public policy as they affect income groups, public institutions, portability, coordination and statewide planning, Federal programs, and Federal-State relationships. The study concludes with a series of 21 recommendations for State and Federal policy.

In addition to analysis of existing data sources, the Council commissioned a special survey of 230 private colleges and universities to determine the effects of existing State aid programs on institutional finance. Results of this survey are contained in a technical supplement published as part of the book. A second technical supplement provides detailed statistical analyses of enrollment trends in the private sector, with data broken down by State and by Carnegie Commission classification. These data will be particularly useful to State planners and to administrators of private colleges. A third supplement presents case studies of the development of State aid to the private sector in California, Georgia, Illinois, New York, and Pennsylvania.

9:4.3/74

Paying for College: Financing Education at Nine Private Institutions, Sloan Study Consortium, 137 pp. (University Press of New England, Hanover, N.H.).

The growing problem of paying for high-priced private higher education prompted this comparative study, which draws on information provided by Amherst, Brown, Dartmouth, Harvard, MIT, Mount Holyoke, Princeton, Wellesley, and Wesleyan. The original 9-member organization was subsequently enlarged to 23 members, and renamed the Consortium on Financing Higher Education, with headquarters at Dartmouth.

The 9-college study concentrated heavily on loan financing, including recommendations for change in existing Federal and State loan programs and the implementation of a new, supplemental loan program for young alumni who, for unexpected reasons, have difficulty paying back educational loans. The book's discussion of loan finance, and particularly the analysis of the National Direct Student Loan and Guaranteed Student Loan programs, remains pertinent today.

The discussion of loans is preceded by brief chapters that document the growing financial distress of the nine colleges during the late 1960's-early 1970's, including an analysis of growth in operating expenditures, efforts to control costs, and steps to increase income. The chapter entitled "A Search for Solutions" concludes that there are limits to cost control and to the ability to raise outside income, meaning that tuition will remain of central importance. The book's emphasis on loans is prompted by this realization and the need to help students finance these ever-rising charges.

The Consortium on Financing Higher Education (COFHE) subsequently published a report in April 1975 entitled *Federal Student Assistance: A Review of Title IV of the Higher Education Act*, intended to influence the Education Amendments of 1976. For a review of this report, see 21:2.0/75.

4.4 Community Colleges

9:4.4/77

Financing Community Colleges, 1976, Walter I. Garms, 120 pp. (Teachers College Press, Columbia University, New York).

Although community colleges have been one of the fastest growing sectors of education in recent years, the literature on their financing is remarkably thin. Part of the reason may be that these institutions bridge the worlds of elementary/secondary and higher education finance, and hence have been ignored by researchers in both communities. Whatever the cause, Walter I. Garms' book represents the most substantive work available at this time.

The book is primarily a "think piece," specifying criteria that an ideal finance plan should meet and then evaluating several models in relation to them. The three special functions that Garms claims community colleges perform are to provide access to postsecondary education for those who cannot easily attend 4-year or residential colleges, to provide courses and programs not provided by other institutions, and to serve the educational needs of the local community at the postsecondary level. He then specifies nine criteria that finance plans should meet in furthering these three functions, and devotes the balance of the book to a discussion of financing alternatives. Many of the plans he considers are actually in use, while others are only theoretical possibilities.

Since local governments in many States contribute property tax revenue to community colleges, the book deals primarily with the integration of the elementary/secondary concern of school finance reform (i.e., the Serrano case in California) with the more typical issues that face the rest of higher education. Two of Garms' nine criteria relate to student and taxpayer equity in the fashion of elementary/secondary school finance.

Garms argues that all financing systems can be classified as either market models, planned economy models, or hybrids of the two. For States with no local contribution, his nine criteria lead him to endorse what he calls a "modified decentralized system," which attempts to maintain responsiveness to the local community although most of the funds come from the States. For those States that do have a substantial local contribution, he endorses a "modified power-equalizing system," a version of the original Coons, Clune and Sugarman district power-equalizing model but adapted to the unique features of community colleges. In either instance, Garms argues for increased tuition payments from those students able to afford them.

It was this latter feature that caused the American Association of Community and Junior Colleges to disavow the book, on the grounds that Garms' excessive concern for private higher education drove him to endorse higher public tuition. It is unfortunate that this exceedingly clear and sensible document has received so little attention in both the higher and elementary/secondary finance discussions, for it is one of the few books on community college finance worth reading.

9.4.4/76

Financial Support Patterns for Community Colleges, 1976, James L. Wattenbarger and Paul M. Starnes, 118 pp. (Institute of Higher Education, University of Florida, Gainesville).

This volume provides a description of existing formulas each State uses to finance community colleges. The information came from surveys the authors sent to State directors of community/junior colleges.

The book begins with a discussion of the community college philosophy and the various purposes the institutions serve (or want to serve). The book then argues that the States have failed to finance these activities adequately, preventing many of the institutions' goals from being met. States often refuse to pay for part-time, non-degree credit instruction, or for short courses offered through continuing education units, or for older students, or for students enrolled at night, or for counseling services, and so forth. The chapter concludes with a not very convincing argument for the State assuming the full costs of each of these activities.

The second chapter offers a taxonomy of financial support patterns and identifies four categories into which State plans fall: (1) negotiated budget funding, in which each campus budget is negotiated directly with the State legislature or a State board; (2) unit rate formulas, a general term applied to most formula-driven budgets, whether based on enrollments, contact hours, or other activity unit; (3) minimum foundation funding, used in States where there is a local contribution, with the State effort usually inversely related to the taxing capacity of the local district; and (4) cost-based program funding, in which the budgets are based on cost studies broken down by discipline, instructional category program function, or object of expenditure.

The third chapter provides the detailed description of each State's financial procedure, while the fourth presents the authors' proposal for an "ideal" plan under which the State would fully underwrite the expenses of the multiple activities of the typical community college, using various formulas for each activity. The book ends with three appendices, presenting State and local support by State for 1974-75 and 1975-76, a definition of the way each State measures various activities, and a description of financing changes enacted recently in selected States.

5.0 FINANCIAL CONDITION OF INSTITUTIONS

9.5.0/A

Private Higher Education, (First, Second, Third) Annual Report on the Financial and Educational Trends in the Private Sector of American Higher Education, W. John Minter and Howard R. Bowen, 110, 116, 77 pp. (Association of American Colleges, Washington, D.C.).

Independent Higher Education, Fourth Annual Report on the Financial and Educational Trends in the Independent Sector of American Higher Education, W. John Minter and Howard R. Bowen, 148 pp. (National Association of Independent Colleges and Universities, Washington, D.C.).

These volumes comprise a continuing series of reports widely recognized as among the most useful to date in reporting and analyzing the status of the private sector of higher education. Sponsored during its first three years by the Association of American Colleges, future reports will be published by the National Association of Independent Colleges and Universities. The first three reports were based on a sample of 100 private 4-year colleges and universities, while the fourth report has been expanded to include major research universities and 2-year colleges. Subsequent reports will also be based on this enlarged sample of 135 institutions, which is representative of over 1,150 colleges and universities.

The reports draw on the following documents: the Higher Education General Information Survey (HEGIS), salary information as submitted to the American Association of University Professors (AAUP), audited financial statements of each college, annual college budgets, the president's annual reports, the college catalog, and a voluntary financial support survey. In addition, the colleges and universities responded to a 6-part questionnaire directed to major institutional administrators.

These data permitted the authors to draw conclusions on admission and enrollment, retrenchment, environment, revenues and expenditures, assets, liabilities and net worth, student housing and dining, attitudes about present conditions and future outlook, comparison with the public sector, and analysis of individual institutions. The authors also attempted to relate changes in financial status to changes in educational program through analysis of additions and deletions to the course offerings, changes in faculty size and composition, etc.

The authors made several interpretive generalizations. For example, in the 1975 report, they noted that approximately 25 percent of the institutions studied appeared to be in financial distress and that those were found chiefly among the Comprehensive Universities and Colleges and the Liberal Arts Colleges II (Carnegie Classification). They also expressed concern over whether the pressures of the market may not be forcing such institutions to compromise their integrity. At the same time, they found no significant deterioration in the quality of program. Finally, they observed that relative financial health should be credited largely to State and Federal governments which helped through student aid programs and in other ways.

In addition to statistical information, the reports are particularly valuable for the interpretations the two experienced scholars draw from the data. Since the four reports cover the period 1969-70 through 1976-77 (and for some data through 1977-78), a valuable longitudinal data base has been developed. The authors will continue to ensure the reliability and timeliness of the statistics through a yearly compilation of data; however, after 1978 the report will be published biennially.

9:5.0/76

Higher Education and the Economy, ERIC Higher Education Research Report 2, Hans H. Jenny, 56 pp. American Association for Higher Education, (Educational Resources Information Center, Washington, D.C.).

This brief essay, one of a series prepared under the auspices of the ERIC Higher Education Clearinghouse, is actually a careful survey of much of the literature on the economics of higher education, and thus should be the first document read by a novice in this area. The reader will find in it a systematic discussion of many of the other works included in this bibliography, as well as a critical evaluation of many of those works.

The essay briefly examines the impact of changes in the economy at large on the fortunes of higher education, and includes a discussion of the effects, both positive and negative, of the 1974-75 recession. It also traces the effects of recession on higher education revenues through the impact on enrollments, on State government appropriations, and on philanthropic support.

The growing literature on demand for higher education is also briefly summarized here, as are several of the recent reports on financial condition, including the Bowen-Minter reports and the Lanier-Anderson report. A criticism of the Higher Education Price Index by Kent Halstead is also included.

The author argues that the single most serious defect in our national data bases for higher education " . . . lies in the absence of nationally credible indicators of institutional health, especially if the latter is defined in the broad manner suggested by the National Commission on the Financing of Postsecondary Education." He goes on to argue that, "The development, nationally and with the assistance of the States, of a set of comprehensive indicators of institutional health should have highest legislative priority." In Jenny's view, higher education will find it difficult to argue its case persuasively in the 1980's if such indicators, simple and compelling to legislators and other policymakers, are not developed.

9:5.0/75

A Study of the Financial Condition of Colleges and Universities: 1972-1975, Lyle H. Lanier and Charles J. Anderson, 102 pp. (American Council on Education, Washington, D.C.).

This study was prompted by a concern that the National Commission on the Financing of Postsecondary Education report had not taken sufficient note of the changes in real resources per student that a combination of inflation and reduced State appropriations and declining endowment yields had produced during the first half of the 1970's. To provide evidence of this change, surveys were sent to a representative sample of institutions to collect current data similar to those published from the Higher Education General Information Survey (HEGIS), but often with a delay of two or more years. Institutions were grouped into Carnegie Commission categories, and changes in operating revenues per student were traced over the 3-year period in both current and constant dollars. The general finding was that the sharp inflationary increases that marked these years had contributed to a drop in real resources per student, reversing a pattern of more than 30 years duration in which resources per student increased by an average of roughly 2.5 percentage points per year.

Included in the report is information for this 3-year period on enrollment trends; trends in operating revenues, including both educational and general and tuition and fee revenues; current fund and student aid deficits; and the changing distribution of expenditures by function. Of particular interest is the chapter on inflation, and the several price indexes that have been developed for higher education. Comparisons of five higher education price indexes with three national economic price indexes is especially useful, together with the author's discussion of the strengths and weaknesses of the various measures. For their own study, the authors use the Halstead price index, slightly modified, notwithstanding the criticisms that have been leveled against it by some university administrators.

Although the use of expenditure per student data can be misleading across institutional types, particularly when the problems of joint production are present (e.g., faculty engaged in teaching, research, and public service), this study is a valuable contribution to the understanding of changes in higher education resources. It is unfortunate that it was a one-time effort.

9:5.0/73

The New Depression in Higher Education: A Study of Financial Conditions at 41 Colleges and Universities, Earl F. Cheit, General Report for the Carnegie Commission on Higher Education and the Ford Foundation, 169 pp. (McGraw-Hill Book Co., New York).

201

The New Depression in Higher Education–Two Years Later, Carnegie Foundation for the Advancement of Teaching, 84 pp. (CFAT, Berkeley, Calif.).

Although the specific information contained in this seminal report is dated, this volume is included in this section–together with the follow-up study done two years later–because it contributed greatly to the discussion of higher education finance during the 1970's. It brought out into the open private concerns about financial stability that had haunted many college and university presidents in the late 1960's and early 1970's. Until the publication of this volume made it respectable, it was difficult for presidents to talk publicly about growing budget deficits.

The book presents 41 case studies based on interview reports and appropriate financial records. The sample selected for the study represents several types of institutions, both public and private: universities, liberal arts colleges, comprehensive colleges, and 2-year institutions. It was found that 29 of the institutions (71 percent) either were approaching or already experiencing financial difficulty. Financial trouble was considered imminent if, at the time of the study, an institution had been able to meet current responsibilities but could neither ensure that it could much longer sustain current program and quality standards nor plan to support evolving program growth. Colleges and universities forced to reduce services or eliminate important education programs were considered in financial difficulty.

On a nationally-weighted basis, 42 percent of U.S. institutions accounting for 54 percent of the students were shown to be heading for financial trouble. Again on a weighted basis, slightly less than one-fifth, or 19 percent of the institutions, accounting for 24 percent of the students, were already in financial difficulty.

In addition to revealing the magnitude of the emerging depression in higher education, the author calls attention to the nature and impact of the financial problems as they affect various kinds of institutions, and to the way these institutions are responding. The author's case-study examination of expenditure patterns, income factors, and administrative practices enables the reader to obtain a down-to-earth perspective of a variety of financial problems and how they may be most effectively solved. The study also presents views of school administrators concerning public policy toward financing higher education.

The follow-up study, *The New Depression in Higher Education–Two Years Later* (Carnegie Foundation for the Advancement of Teaching, 1973), documents a "fragile stability" in revenue and expenditure trends that had occurred since 1971. In particular, the increase in real expenditures per pupil in these institutions had dropped from 4 percent per year to 0.5 percent by 1973. These figures can be compared to the decline in real resources per student noted in the Lanier-Anderson study for the 1972-75 period.

6.0 DATA SOURCES

Note: The following entries comprise a basic list of data sources with which any student of higher education finance should be familiar. Whereas most of the preceding entries involved analysis of data leading up to recommendations for public policy, the materials in this section are among the more important sources of information required for such analyses.

9:6.0/79

Financing Higher Education in the Fifty States: Interstate Comparisons for FY 1976, Marilyn McCoy and Kent Halstead, (U.S. Department of Health, Education, and Welfare, National Institute of Education, U.S. Government Printing Office, Washington, D.C.).

This study presents a systematic construct or model of data relating to State and local government financial support of higher education. The framework and graphical layout assists in understanding the component elements affecting institutional financing, their interaction, and serve as an aid in appraising performance levels through use of interstate comparisons. Sixteen measures are reported in four areas: public enrollments, government finances, other revenues, and expenditures. Revenues and expenditures are detailed by sector and five public institutional levels. The measures are interrelated by formula which permits quantified assessment of the consequences of alternative input values. Each measure is expressed in relative terms to provide comparability, and also as an index relative to the U.S. average.

The analysis potential of the model presented extends beyond initial descriptive review. Certain observations made by the authors are presented in a short commentary accompanying the data model for each State. Questions of interest to legislators, State planners, and budgeting officers which the data and commentary address relate to the maintenance of appropriations, proportional enrollment and inflation, consistency of enrollments per capita with State goals, taxation effort and allocation to higher education relative to enrollment load, utilization of the tax base, level of appropriations per student compared with national averages, etc.

The volume appears to be a major step in converting otherwise sterile raw data into a meaningful organization and formula which should be of significant value to planners in appraising their State and local government support of higher education.

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9:6.0/78

Tax Wealth in Fifty States, D. Kent Halstead (U.S. Department of Health, Education, and Welfare, National Institute of Education, U.S. Government Printing Office, Washington, D.C.).

This study is an update of two earlier efforts to assess State and local fiscal capacity published by the Advisory Commission on Intergovernmental Relations. One was a 1962 study by Selma J. Mushkin and Alice M. Rivlin, *Measures of State and Local Fiscal Capacity*, and the other a 1971 study by Allen D. Manvel and Donald J. Curran, *Measuring the Fiscal Capacity and Effort of State and Local Areas.* The present work draws heavily on a simplified technique for generating estimates of fiscal capacity developed by Robert Reischauer while at the Brookings Institution. It should be possible to keep such estimates reasonably current through use of this computer-based technique that draws on data available yearly.

The volume presents data on and a comparison of the tax capacity and effort of State and local governments. Assessment of State and local public service needs are presented in appendices, including a separate analysis of public higher education.

9:6.0/A-1

Special Analyses, Budget of the United States Government, Fiscal Year 1979, Office of Management and Budget, 329 pp. (U.S. Government Printing Office, Washington, D.C.).

Published each January concurrently with the President's budget, the Special Analyses are an essential source of information on Federal outlays for higher education and related areas, such as medical education and research and development. Special Analysis J is devoted to education, Special Analysis L deals with health outlays, including health training, Special Analysis G focuses on tax expenditures, including the several provisions that benefit education institutions, students, or faculty, and Special Analysis P deals with research and development.

9:6.0/A-2

Financial Statistics of Institutions of Higher Education, Fiscal Year 1976, (1977, 1978) State Data, Paul F. Mertins and Norman J. Brandt, 261 pp. (National Center for Education Statistics, U.S. Government Printing Office, Washington, D.C.).

Published annually, these reports from the Higher Educational General Information Survey (HEGIS) collected by the National Center for Education Statistics (NCES) are the basic source of information on institutional finance for U.S. higher education. Surveys are mailed yearly to all institutions, and better than 90 percent usually respond. Estimates are made for missing data, rounding out the universe of higher education.

The basic tables include current funds revenues and current funds expenditures, physical plant assets, indebtedness on physical plant, endowments, and a statement of changes in fund balances. Published data are broken down according to State, type of control, university, and whether the school is 2- or 4-year. Data for individual institutions are available on computer tapes from NCES at a reasonable charge.

9:6.0/A-3

National Association of State Scholarship and Grant Programs: 9th Annual Survey, 1977-78 Academic Year, Joseph D. Boyd, 54 pp. (Illinois State Scholarship Commission, Deerfield).

These ad hoc surveys of State scholarship and grant programs are the only sources of information on this growing area of educational finance. During the 1976-77 academic year, States awarded nearly $650 million in student aid, up from $200 million in 1969-70. Tables provide information for every State and for every program on the number of awards and total dollar outlays. With the increased emphasis on direct student aid, any study of resources available to students will necessarily have to cover these State programs.

Copies of earlier surveys are out of print. Current surveys are available at cost from the compiler, Joseph D. Boyd, c/o Illinois State Scholarship Commission, 102 Wilmot Road, Deerfield, Ill. 60015.

9:6.0/A-4

Voluntary Support of Education, 1975-1976, Council for Financial Aid to Education, 70 pp. (CFAE, New York).

Published annually, these surveys of philanthropic giving to institutions of higher education are the basic source of information on voluntary support. Although less than half of all institutions complete the survey, estimates are made of universe totals. The figures provided by respondents provide information on total giving, sources of support, forms of giving, support through the annual fund, total non-alumni parent support, corporation matching gifts, and current market value of endowment. These surveys have been conducted since 1954-55, and thus provide an excellent time series of information.

9:6.0/A-5

Higher Education Prices and Price Indexes, D. Kent Halstead, 114 pp. (U.S. Department of Health, Education, and Welfare, U.S. Government Printing Office, Washington, D.C.); **Higher Education Prices and Price Indexes: 1978 Supplement**, Halstead, 48 pp. (National Institute of Education, GPO, 1978).

In examining expenditures on higher education over time, analysts must be concerned with changes in the purchasing power of the dollar caused by inflation. Prior to the publication of this book, one was forced to use economy-wide indexes, such as the consumer price index or the implicit GNP deflator, which were better than nothing but hardly accurate for the specialized goods and services purchased by institutions of higher education. Halstead's annual publications provide four specialized indexes for higher education, calculated annually from 1961 to the present: a current operations index, a research and development index, a physical plant additions index, and a student charge and tuition index. The first has received the greatest attention and the most use.

In addition to the indexes themselves, the initial publication contains chapters on the uses and limitations of price indexes generally, and on index number theory. The annual supplements simply update the time series.

The composition of Halstead's current operations index has been criticized by Princeton University president William G. Bowen for concentrating too heavily on education and general expenses rather than on the full range of university costs, including auxiliary enterprises. (See William G. Bowen, "The Effects of Inflation/Recession on Higher Education," *Educational Record*, Summer 1975, Vol. 56, No. 3) Also see discussion of Halstead's index in the documents by Jenny and by Lanier and Anderson annotated in the preceding section of this bibliography.

9:6.0/73

Sources of Funds to Colleges and Universities, Technical Report sponsored by the Carnegie Commission on Higher Education, June A. O'Neill and Daniel Sullivan, 45 pp. (Carnegie Commission on Higher Education, Berkeley, Calif.).

This slim volume provides valuable data on the revenue sources of higher education institutions from 1930 to 1968. Drawing primarily on Department of Health, Education, and Welfare Office of Education surveys conducted before the establishment of the Higher Education General Information Surveys (HEGIS), the data provide a bridge from earlier periods to present. Any research that attempts to track the changing importance of a given source of revenue, such as tuition, will find this volume indispensable.

For an example of the way these earlier data can be merged with more current HEGIS data, see the chapter by Susan C. Nelson, "Financial Trends and Issues," in the Breneman-Finn volume (9:4.3/78) annotated earlier in this bibliography.

9:6.0/71

Resource Use in Higher Education: Trends in Output and Inputs, 1930 to 1967, June A. O'Neill, 106 pp. Carnegie Commission on Higher Education, (CCHE, Berkeley, Calif.).

This pioneering effort involved an investigation of trends in output and input in the higher education "industry" over the years 1930-1967. Output was measured according to instruction, using the student credit hour as a base. Other products, such as research and public service, were not included. Inputs were measured both by operating expenditures and with estimates of the stream of services provided by the capital stock. A price index for instructional services was devised to convert the measures into constant dollars. The study's principal finding was that the constant dollar cost per credit hour has not changed appreciably over the nearly 40 years studied, indicating that the instructional function of higher education has not increased in productivity. One can make many quibbles with the methodology of this study, but it remains an essential resource for students of the higher education industry. It is also invaluable as a guide to sources and limitations of data in those earlier years, and provides a number of methodological appendixes on ways to cope with these data in order to render them comparable and useful. It is an essential reference work.

9:6.0/A-6

Federal Support to Universities, Colleges, and Selected Nonprofit Institutions, Fiscal Year 1976, National Science Foundation, 150 pp. (NSF, U.S. Government Printing Office, Washington, D.C.).

This is an essential reference for those seeking information on the distribution of Federal dollars to colleges and universities. The NSF collects these data annually from the 14 Federal agencies that account for over 95 percent of the Federal obligations to institutions of higher education. The guide ranks the top 100 recipient institutions by dollars received, and organizes by State obligations to each college and university. Information on obligations by each agency and by type of support is also presented, with particular emphasis on support for academic science.

These annual reports can be ordered from the U.S. Government Printing Office, or from the Division of Science Resources Studies at the National Science Foundation.

10

Governance and Coordination

John K. Folger

* * *

Governance is concerned with the formal and legal methods of control and decisionmaking, and with making and administering policy and regulations. Governance is exercised over an organization, in this case, institutions of higher education. Governance includes direction and control of: (1) a single institution or campus; (2) of multi-institution and multicampus systems; and (3) statewide systems. Emphasis will be given here to statewide and multicampus arrangements in keeping with the statewide and national emphasis of the bibliography.

Coordination is the effective interrelationship between institutions in the pursuit of common goals and policies. Coordination may involve legal control of specified procedures (such as program approval, budget review, and planning) as a means to assure effective joint action of institutions. This form of coordination regulates institutions and their governing authority. If coordination does not include legal authority, it is termed voluntary or advisory coordination. Coordination may be regulatory with respect to public institutions and voluntary with respect to private institutions.

Although the term coordination may be used in relation to internal units within a campus, this bibliography will limit the topic to interinstitutional coordination.

Scope. The boundaries between governance and coordination are often indistinct. For example, if an institution has a governing board, agencies that regulate the institution at the State level are called Coordinating Boards, even if they control the key processes usually associated with governance, such as budget and program control.

Excluded from this section of the bibliography are works that deal primarily with management, or with the technical processes used to establish control through governance or coordination, such as budgeting, program audit procedures or planning. Governance and coordination are thus limited here to the legal and organizational framework within which more specific policy processes are conducted.

Also excluded are works that deal primarily with internal governance arrangements between faculty, departments and administration. The extensive literature on collective bargaining in higher education, for example, is not included (see Topic 8: Faculty).

Organization. The first section lists works that focus primarily on *institutional* governance. Also included are conceptual studies of the governing process and a few highly selected works from related organization and administrative theory.

The second section focuses on the more limited literature dealing with the organization and functions of State level boards, both coordinating and governing. There are two major themes: first, the proper *relationship* between State agencies and institutions in terms of centralization versus decentralization and accountability versus independence; and second, the *functions* of State agencies, in terms of interrelationships and performance levels.

The third section contains works that are primarily descriptive of State organizations for coordination or governance. These descriptions may be used to trace and analyze changes in State arrangements.

TOPIC ORGANIZATION

- 10: Coordination and Governance
  - 1.0 Evaluative and Analytic Studies
    - 1.1 General
    - 1.2 State Role
    - 1.3 Federal Role
  - 2.0 Descriptions of Coordinating and Governing Arrangements

1.0 EVALUATIVE AND ANALYTIC STUDIES

1.1 General

10:1.1/77

New Structures of Campus Power, John D. Millett, 294 pp. (Jossey-Bass, San Francisco).

John D. Millett and 30 other authors of case studies examine the changing structure of management, decisionmaking (governance) and leadership that emerged on campus in the decade from 1966 to 1976. Increased faculty and student participation in governance characterized this period, and Millett, through 30 case studies of various types of 4-year institutions, attempted to assess the effects of the changes on the effectiveness, clarity and acceptability of the new arrangements. The book is limited to the internal governance of individual campuses, and does not consider multicampuses or statewide governance arrangements, although their impact is obvious in some of the cases.

The book has eight chapters. The first reviews studies of governance and different models of the governance process. It defines the dimensions of leadership, management and decisionmaking that will be examined in the later sections. The second describes study methods. The next three chapters include the case studies respectively of major research universities, other universities and general baccalaureate colleges. The last three chapters examine the results and develop generalizations. The increase in participation of faculty and students was largely a result of increased acceptability of decisionmaking (and the resultant decisions), but this was offset by a reduced effectiveness of university governance arrangements. Millett discusses a workable model of campus governance in the seventh chapter and the final chapter is a realistic examination of the requirements for an effective governance structure. This book is a very valuable blend of concept and theory and Millet's extensive practical involvement with leadership and decisionmaking in higher education.

10:1.1/75

Managing Multicampus Systems. Eugene Lee and Frank M. Bowen, 174 pp. (Jossey-Bass, San Francisco).

This book reports on a reexamination of the multicampus systems studied by the authors for their 1971 book *The Multicampus University*. Like the earlier work, this was produced under the auspices of the Carnegie Council on Policy Studies in Higher Education (successor to the earlier Carnegie Commission). It examines the way in which these systems were responding to the changing pressures in higher education, enrollment stabilization and decline, and more limited resources. The authors do this in eight chapters. The first describes the nine systems, the next six describe key functions of planning, program review, budgeting, program development strategies, faculty retrenchment and renewal, student admissions and transfers, and concludes with a prognosis about multicampus systems in the 1980's.

The latest study was based on questionnaires and about 100 interviews with system officials. There are a number of interesting comparisons with the earlier study of these same institutions. For example, they now do more planning. Academic and fiscal planning are much more closely related, and there is a much greater development of systems that goes beyond the aggregations of individual campuses. The key issue, however, is still centralization versus decentralization — what functions must be centrally governed and managed, what functions can be coordinated at the central level, but managed at the campus level.

10:1.1/74

Managing Today's Universities. Frederick Balderston, 307 pp. (Jossey-Bass, San Francisco).

This book is in part the outgrowth of a major program of research on university administration conducted by Dr. Frederick Balderston and others at Berkeley from 1968 to 1978. The work in part reflects the author's rich background of administrative experience and teaching about administration. There are 10 chapters which provide a conceptual framework, plus practical descriptions of the constituencies involved in university governance and management, their values and objectives, the policy analysis process, and university market environments. Several chapters discuss the economics of university management — there is a chapter on information needed for management, and a final chapter examines the management requirements for institutional survival, stability and excellence.

This book is primarily focused on the internal management of the university, although important external forces are given considerable attention. There is a heavy emphasis on fiscal management and on the use of quantitative management procedures, although the author also is quite sensitive to the values of the academic community within which these management methods operate.

10:1.1/73

The University as an Organization, James A. Perkins, ed., 273 pp. (McGraw-Hill Book Co., New York).

This volume is one of a series commissioned by the Carnegie Commission on Higher Education. It focuses on the university as a unique, multipurpose organization in our society. James A. Perkins has written the first and last chapters himself, in which he outlines some of the conflicts and tensions between the multiple functions of universities. In the last chapter he assesses whether the tensions between the different functions are likely to lead to the elimination of some of the functions in favor of the central role of instruction. Limited attention is given to the fact that most universities are part of a larger external organizational structure; the work focuses primarily on the internal organization of the institution.

The book is organized into three major sections. The first gives perspectives on the history and the similarities and differences among American universities. It also provides comparisons of a German, English, French and Canadian university, and has a chapter on the tensions that have developed in considering the university as a community.

The second section contrasts university organization with other institutions: a government agency, a foundation and a business corporation. The third section considers legal status, corporate authority and relations with trustees. This section is most relevant to those interested in statewide governance and coordination. Particularly relevant is the chapter by Lyman Glenny and Thomas Dalglish on higher education and the law. This is a somewhat diffuse series of essays on university organization, but it provides useful new perspectives on some old problems.

10:1.1/60

Governance of Colleges and Universities, John J. Corson, 209 pp. (McGraw-Hill Book Co., New York).

This examination of governance by an experienced economist and management consultant provides a basic overview of institution governance and administration. It is one of the first to use the conceptual base of organization theory to analyze as well as describe university decision-making and governance processes. There is limited attention to external organizational or governance influences, for the book deals primarily with internal governance. Following chapters describing the nature and significance of governance, and the university as an administrative enterprise, there is a series of chapters about the various groups that participate in decisionmaking: university-wide officers (presidents and vice-presidents), academic deans, departmental chairmen and faculty. This is followed by a comparison of university decisionmaking and administrative processes with those of other organizations and an identification of differences in university goals, personnel and procedures that make their governance process different.

A chapter on external influences on governance is followed by a final chapter that examines the effects of leadership and institutional character (purpose) on decisionmaking and governance. The book contains a useful commentary on the literature on management, governance and organization theory both in higher education and general works. While the book is based in part on visits and interviews at 10 institutions, John Corson successfully generalized his analysis to provide a basic view of university decisionmaking processes in institutions of higher learning.

1.2 State Role

10:1.2/76-1

State Boards of Higher Education, Richard Millard, 69 pp. (American Association of Higher Education, Washington, D.C.).

This report summarizes the historical development of statewide boards, and describes the types of such boards in terms of their functions, powers, and legal structure. There is a useful chapter which traces the development of the Federal support for State postsecondary commissions (1202 Commissions). A final chapter on issues, trends and directions describes some of the current problems in the operation of statewide agencies, as well as some of the problems the agencies are trying to resolve.

This report is primarily descriptive, and is developed from the author's background as a statewide executive and his extensive working relationships with State agencies as director of the Department of Postsecondary Education at the Education Commission of the States. This report gives a good general overview, and includes an extensive bibliography for the reader who wants to pursue the subject in more detail.

10:1.2/76-2

Changing Patterns of Governance in Higher Education, John J. Corson, 65 pp. (University of Arizona Higher Education Program, Tuscon).

This is a collection of papers that was presented at a conference at the University of Arizona. The collection, typically, is diffuse and somewhat uneven. John J. Corson outlines five external forces that have had a major impact on higher education: demographic, the expansion of knowledge, the pressures for democratization, the expansion of government and the rise of the "underdog." Corson concludes that it will be hard to maintain institutions dedicated to developing "inquiring minds" in the face of mass higher education with more limited resources. John D. Millett has a paper on the expanding role of the States in higher education, and Marvin D. Johnson has a paper on the institutional perspective of State-institutional relations. Allan W. Ostar discusses the Federal impact on State and institutional policymaking, and T. Harry McKinney has a long paper on the organization and coordination of postsecondary vocational programs, and the impact of the Federal Government on State vocational education structures.

10:1.2/75-1

Evaluating Statewide Boards: New Directions for Educational Research, Robert O. Berdahl, ed., 114 pp. (Jossey-Bass, San Francisco).

This is a valuable, although somewhat uneven, set of papers about the contemporary problems of statewide boards, and the functions they will need to perform in the future. The papers raise lots of questions and provide relatively few answers, except that the future of statewide boards is likely to be uncertain and difficult. Dr. Berdahl wrote the first and last chapters himself. He calls, in the first chapter, for periodic appraisal of the performance of boards, reasoning that since most of them have evolved beyond the formative stage, their further development should be guided by external peer reviews of their effectiveness. Pat Callan follows with a perceptive set of recommendations about evaluation of the functions of boards, and Bob Graham, a State legislator from Florida, suggests that legislatures as shapers and implementors of public policy are the proper groups to evaluate boards.

Several of the papers – those by Fred Harcleroad, John Keller, John D. Millet and Frederick Balderston–examine decentralization vs. centralization of authority in dealing with changing problems of the next decade. While decentralization is advocated, more centralization seems to be the likely trend. Another theme that runs through several of these papers – those by Miller, Holderman, and Graham – is the need for statewide boards to develop and maintain effective political relationships, for such relationships will have a great deal to do with the weight and effectiveness of the boards' policy recommendations. This set of papers raises important questions, and will be useful to both higher education administrators and students of educational organization and evaluation.

10:1.2/75-2

Administration of Statewide Systems of Higher Education, Fred Harcleroad, ed., 51 pp. (American College Testing Program, Iowa City).

This is a collection of conference papers covering several specialized aspects of administration of statewide systems, the need for better information, student aid programs as a component of statewide systems, and centralized vs. decentralized organizations. Two of the papers, "Changing Patterns of Statewide Coordination," by Richard Millard, and "Organizing State Systems for Maximum Effectiveness," by Fred Harcleroad, discuss general trends and issues in the functions and structure of boards. Harcleroad discusses the applicability of new patterns of decentralization in business to State board-institutional relationships.

Two other papers, one by John D. Millett on the analytic use of information in statewide planning, and the other by Ben Lawrence on the analytic use of data in postsecondary planning, discuss the need for and uses of information in statewide planning and coordination. John Folger continues the theme of information use by examining the kind of data and analysis needed to assess progress (or lack of it) in achieving equal educational opportunity at the State level. Joseph Boyd discusses the growth of student assistance programs and their relation to statewide planning and coordination.

A theme that emerges from three of these papers is the need for information more relevant to policy and planning problems of State agencies. Another theme is the persistence of the tension between statewide oversight and coordination functions and institutional autonomy.

10:1.2/73-1

Governance of Higher Education: Six Priority Problems, Carnegie Commission on Higher Education, 349 pp. (McGraw-Hill Book Co., New York).

This report deals with the decisionmaking aspect of governance and presents recommendations about six areas where tensions over such decisionmaking have developed. The first area deals with the relation of the campus to external authority (State and Federal). Here selective independence rather than autonomy is recommended, with the campus being independent in (1) intellectual conduct, (2) academic affairs, and (3) administrative arrangements. A detailed list is developed of areas of proper public control and of institutional independence in various kinds of decisionmaking. The Commission also developed five recommendations dealing with control and independence including the suggestion that each State define the proper State sphere of authority and the areas of institutional independence. The recommendations in this chapter are balanced, well-reasoned, and backed up by evidence.

The other priority problems examined are: the governance role of the board of trustees, its composition and relation to the president; collective bargaining and faculty power, principles and practices of tenure (which is both a governance and a personnel issue), the proper role of students in academic and institutional governance and decisionmaking, and finally, decisionmaking in times of emergency and crisis. Five appendices make up about two-thirds of the book and include faculty and student responses to a questionnaire on governance issues, as well as statements about governance issues by several groups. The six problems are somewhat independent, connected only by their relationship and effect on decisionmaking.

10:1.2/73-2

Public Universities, State Agencies and the Law: Constitutional Autonomy in Decline, Lyman Glenny and Thomas Dalglish, 194 pp. (Center for Research and Development in Higher Education, Berkeley, Calif.).

This report reviews the legal relationships between public universities and the State. It examines the meaning of constitutional status, and how that has been affected by court decisions and by an increasing involvement of State agencies in institutional affairs. The book concludes that State agencies have exerted an increasing oversight over higher education, and that constitutional status confers an increasingly limited independence upon the institutions that have it.

10:1.2/73-3

Coordination or Chaos? Report of the Task Force on Coordination, Governance and Structure of Postsecondary Education, 110 pp. , Report No. 43 (Education Commission of the States, Denver, Colo.).

This report was prepared by a task force of institutional representatives, legislators and State postsecondary agency heads under the auspices of the Education Commission of the States. The task force was headed by former Governor Robert Scott of North Carolina. The report reviews the forces affecting higher education, stresses the key role of planning in State coordination and discusses State agency functions – planning, program review and evaluation, and budget review. It ends with a series of very general recommendations, the first of which is that there is no single best way of performing State-level functions, so that each State should develop the structure that fits its own history and political conditions.

There is also a series of recommendations for the Federal government to recognize the uniqueness and autonomy of the States. The recommendations underline the importance of planning, and urge that all parts of public and private postsecondary education be included in coordination – not just public colleges and universities. States are encouraged to develop a single statewide agency for planning and coordination, and each State is urged to delineate the respective responsibilities and authority of State agencies and institutions. There are other recommendations dealing with decentralization of decisionmaking, legislative support of coordination and planning through a State agency, and the undesirability of any State-level preaudits. The report concludes that postaudits are the proper and effective means of requiring accountability.

10:1.2/71-1

Statewide Coordination of Higher Education. Robert O. Berdahl, 285 pp. (American Council on Education, Washington, D.C.).

This book, completed near the end of the 1960's when the expansion of higher education was slowing, is the most comprehensive examination of statewide coordination for planners in the wake of the sixties boom. In the late 1960's most States had established a statewide agency, therefore, the issue of institutional autonomy and public control is the seminal point for this book. It complements the 1959 study by Lyman Glenny.

There is a thorough study and discussion of the development of and differences among statewide agencies, as well as chapters on board membership and staffing and the functions of planning, budget review and program review. The chapter on the relationships to governor and legislature on the one hand and public institutions on the other provide stimulating contrasts for discussion.

The conclusion contains recommendations for the coordination necessary to implement effective higher education development, but coordination should be tempered by a sensitivity to necessary institutional freedoms and traditions of self-government.

One important area of autonomy and self-government is in the private sector. This study is of special interest for those in the private sector because of its comprehensive review of State aid to private institutions and the relation to statewide coordination and planning. Robert Berdahl recounts the history of public aid to private colleges, notes the shift in enrollment from private to public in the previous three decades and describes the need for State aid.

Institutional accountability and the politics of State aid to private institutions are discussed in light of the role of the coordinating agency as it operates in various States.

This report was based on in-depth visits to some 13 States and reports commissioned from six others.

10:1.2/71-2

Coordinating Higher Education for the 1970's, Lyman Glenny, Robert O. Berdahl, Ernest Palola and James Paltridge, 96 pp. (Center for Research and Development of Higher Education, Berkeley, Calif.).

This report was prepared as a "guide for political and institutional leaders, as well as coordinating boards and their staffs." The report begins with arguments for coordination – rather than governance – in the statewide board. This is followed by chapters which provide a brief discussion of the topic followed by guidelines for boards and their staffs to use in developing functions. Topics covered are: membership and organization of the board; planning; program review; budgeting, operating, and capital; data bases for planning; administration of aid programs; and nonpublic higher education.

This guide has the advantages of brevity and clarity, and the authors offer specific suggestions in controversial areas. As a result, most practitioners can find some things with which to disagree, but a lot more with which to agree. The booklet has probably been used more as a guide to practice than any other single publication, with the possible exception of D. Kent Halstead's *Statewide Planning in Higher Education* (15:2.0/74).

10:1.2/59-1

Autonomy of Public Colleges, Lyman Glenny, 325 pp. (McGraw-Hill Book Co., New York).

This is the first comprehensive treatment of statewide coordination and has become a classic in the field. Lyman Glenny offers an excellent discussion of the development of coordination up to about 1957, and has chapters dealing with the major functions of: planning, policymaking, program allocation, and budgeting. Glenny examines the tension between institutional autonomy and some form of effective State coordination, and identifies procedures that are likely to strike a balance between them. This book was based on visits and studies in 12 States, and has proved to be a major contribution to higher education research.

10:1.2/59-2

The Campus and the State, Malcolm Moos and Frances Rourke, 414 pp. (Johns Hopkins Press, Baltimore).

This is a detailed report of the staff work done for the Milton

Eisenhower Commission, which produced a much shorter report and recommendations, *The Efficiency of Freedom.* The Commission was established to examine the growth of State controls (some by State coordinating and governing boards but a majority as a result of the budget process) over institutions of higher education. Opinions were obtained from a wide spectrum of institutional administrators, most of whom decried the growth of controls procedures and red tape. The authors' major theme, which was supported by the data and opinions they collected, was that freedom and autonomy of public institutions should be restored, and that controls and regulations are a major deterrent to institutional effectiveness. The authors conclude that decentralization of authority at each campus to the maximum extent feasible is the best policy to follow.

See also:

15:1.2/76-2 The States and Higher Education: A Proud Past and a Vital Future and commentary Supplement, Carnegie Foundation for the Advancement of Teaching, 94 and 66 pp. (Jossey-Bass, San Francisco). This volume contains an important discussion and recommendation about State-level governance arrangements.

15:1.2/71 The Capitol and the Campus: State Responsibility for Postsecondary Education, Carnegie Commission on Higher Education, 156 pp. (McGraw-Hill Book Co., New York).

15:1.1/75-1 Formulating Policy in Postsecondary Education, The Search for Alternatives, John F. Hughes and Olive Mills, eds., 338 pp. (American Council on Education, Washington, D.C.).

15:2.0/74 Statewide Planning in Higher Education, D. Kent Halstead, 812 pp., Office of Education, U.S. Department of Health, Education, and Welfare (U.S. Government Printing Office, Washington, D.C.).

18:1.2/77 State Budgeting for Higher Education: The Political Economy of the Process, Frank Schmidtlein and Lyman A. Glenny, 275 pp. (Center for Research and Development in Higher Education, University of California, Berkeley).

18:1.2/76-3 State Budgeting for Higher Education: Interagency Conflict and Consensus, Lyman A. Glenny, 170 pp. (Center for Research and Development in Higher Education, University of California, Berkeley).

1.3 Federal Role

The Federal Government has no direct role in coordination or governance of higher education; it does have a role in regulation and planning. This role is discussed in Section 15: Planning—Issues, Theory, Reference.

See also: **15:1.3/78** Government Regulation of Higher Education, Walter C. Hobbs, ed., 128 pp. (Ballinger Publishing Co., Cambridge, Mass.).

15:1.3/76-1 Federalism at the Crossroads: Improving Educational Policymaking, Samuel Halperin and George R. Kaplan, eds., 108 pp. (Institute for Educational Leadership, George Washington University, Washington, D.C.).

15:1.3/73 The Second Newman Report: National Policy and Higher Education, Special Task Force to the Secretary of the U.S. Department of Health, Education and Welfare, 227 pp. (MIT Press, Cambridge, Mass.).

9:2.0/75 The Federal Role in Postsecondary Education: Unfinished Business, 1975-1980 Carnegie Council on Policy Studies in Higher Education, 97 pp. (Jossey-Bass, San Francisco).

2.0 DESCRIPTIONS OF COORDINATING AND GOVERNING ARRANGEMENTS

10:2.0/78

Postsecondary Education Profiles, Education Commission of the States, 225 pp. (ECS, Denver, Colo.).

This is an annual sourcebook of information about State higher education. It is a joint project of the Education Commission of the States, the National Center for Higher Education Management Systems, and the State Higher Education Executive Officers. Data are provided for each of the 50 States, and there are three sections within each State report. The first section provides a description of the State-level organization for higher education in each State and a brief description of the functions of each statewide agency. The second section consists of statistical indicators about postsecondary education: receipts and expenditures, tuition, average faculty salaries, enrollments, measures of tax effort and of the share of taxes used for higher education, and other information. Most of these are presented in a form to facilitate comparison among the States. The third section contains a listing of reports and special studies from each State agency. The report is distributed in loose-leaf form designed to replace the profiles for the previous year, and is scheduled for publication each Spring.

10:2.0/75-1

"Survey of the Structure of State Coordination or Governing Boards" in *Higher Education in the States*, Nancy M. Berve, 55 pp. (Education Commission of the States, Denver, Colo.).

This report provides, in tabular form, information about the organization and structure of all statewide coordinating or governing boards. A subsequent section of the report presents limited information about all of the multicampus and institutional governing boards in each State. Items of information covered include: legal basis, type of agency (governing or coordinating), appointing authority for chief executive, legal responsibility for the functions of planning, budget review, and program review, size of board, method of appointment, and types of membership. This provides a good overview of each State's higher education structure as of January 1, 1975, and can be compared with entries 10:2.0/72 and 10:2.0/60 to discover changes in structure over a 15-year period.

10:2.0/75-2

The Changing Map of Postsecondary Education, Aims C. McGuinness, Jr., T. Harry McKinney and Richard M. Millard, 268 pp. (Education Commission of the States, Denver, Colo.).

This is a comprehensive report on the establishment of State Comprehensive Planning Agencies under Section 1202 of the Higher Education Amendments of 1972. The report contains three chapters plus appendices of basic source documents. The first chapter, by Aims McGuinness, who helped draft the legislation, is a detailed account of the development by the Congress of the idea for comprehensive planning commissions. This chapter also reviews the Office of Education actions to implement (or delay the implementation) of this section of the legislation. The second chapter, by T. Harry McKinney, reviews the varied State responses to the act. The third chapter, by Richard M. Millard, reviews the problems and prospects growing out of this first Federal act to assist State comprehensive planning. The third chapter is recommended for the average reader who wants an overview of the development of this legislation. For scholars interested in the origins, development and State response to this legislation, the entire report is a valuable source.

10:2.0/72

State Boards Responsible for Higher Education, J. L. Zwingle and M. E. Rogers, 55 pp. (U.S. Government Printing Office, Washington, D.C.).

This volume was designed as an updating of the 1960 report by S. V. Martorana and E. V. Hollis on State organization and structure for coordinating and governing higher education. State-by-State descriptions are provided which discuss not only the statewide board, but also sector, multicampus, and individual boards. Organization charts are presented for each State. This work is a very useful basic reference work on organization

10:2.0/71

Legal Bases of Boards of Higher Education in Fifty States, Robert L. Williams, 185 pp. (Council of State Governments, Chicago).

This report is an update of the author's 1967 study, "Legal Bases of Coordinating Boards of Higher Education in Thirty-nine States". It consists of a brief introduction and summary table, which the author admits oversimplifies the complex relationships and functions of the boards. This is followed by 50 State descriptions of the board's composition along with its powers and duties. The basic source of information was the statute under which each board was operating. The report did not identify any functions added by regulation or by practice or by fiscal notes on the budget act, which is a source of legislative direction to boards in some States. With these qualifications, this is a useful source document about the legal basis for statewide boards in 1971.

10:2.0/70

Coordination of Higher Education: An Annotated Bibliography, James Wattenbarger, 28 pp. (Institute of Higher Education, University of Florida, Gainesville).

This work contains about 110 briefly annotated items which cover the area of coordination during the 1960's, including a number of State reports as well as more general articles, books, and special reports. It is recommended for persons interested in reviewing the literature on State coordination prior to 1970.

10:2.0/60

State Boards Responsible for Higher Education, S. V. Martorana and E. V. Hollis, 254 pp. (U.S. Government Printing Office, Washington, D.C.).

This is the first comprehensive, State-by-State description of the organization and boards responsible for public higher education. The report contains a general discussion and analysis of higher education boards, followed by State-by-State descriptions of the organization and structure for governing and coordinating public higher education. Since this volume appeared before most States had added coordinating boards, it provides a useful picture of the administrative structure for higher education before the major expansion of both higher education and coordinating arrangements.

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Independent (Private) Higher Education

Elden T. Smith

More than fifteen hundred institutions of higher education in America are classified as private or independent. In recent years the latter term has gained favor with the private sector under the rationale that all institutions, whether controlled by the State or by an independent board of trustees, are "public" in that they serve the public welfare and are accessible to all who meet admissions criteria. Furthermore, such institutions have been recognized by both State and Federal governments as a significant resource in meeting society's demand for a skilled, education work force. Programs providing support for independent institutions and their students have been legislated at both levels of government.

The planning process is integral to the relationship between independent higher education and government at both State and Federal levels because it provides a rationale for the use of public funds by nongovernmental agencies operating for the general welfare.

State Government and Independent Higher Education. State governments, traditionally the primary source of support for higher education, have a direct relation to independent institutions in that they are the chartering or certifying agencies of those institutions. Moreover, in the last two decades many States have established programs of financial assistance to independent institutions and their students. These programs have been in the form of State scholarships and grants to students, direct institutional support, contracts for services, facilities assistance, and special purpose grants and formula grants. The relationship is further enhanced by the involvement of the private sector in statewide planning, in cooperative arrangements among public and independent institutions, in coordination of programs and curricula, and by the implementation of portability and reciprocity in State student aid programs.

The Federal Government and Independent Higher Education. Virtually all legislation establishing Federal programs of assistance to higher education has mandated, either by legislative language or intent, the eligibility of independent institutions and/or their students to participate in such programs. Federal initiatives have been primarily in the areas of student assistance (grants, direct loans and guaranteed loans), facilities grants and loans to institutions, categorical aid for education in the sciences, humanities and arts, research grants and contracts for services.

Philosophical Questions and Policy Concerns. Although the basic issues attendant upon government support are not peculiar to the private sector alone, certain concerns impinge more directly on independent institutions because of potential infringement upon institutional autonomy. The receipt of public funds bears a mandate for accountability, for compliance with government regulations and guidelines and for the acceptance of specific goals and broad social objectives. Indeed, the mere exemption from certain forms of taxation for nonprofit educational institutions implies a limitation on total freedom and independence. Although recent court decisions have tended to minimize the issue of the constitutionality of various programs of State and Federal aid, it is never far removed.

Furthermore, the involvement of government with the private sector has a tendency to limit the distinctiveness of independent institutions. As private colleges and universities turn more and more to government for financial assistance

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and as the State institutions increasingly seek funds from business and industry, alumni and other private donors, the distinction between the two sectors becomes less and less clear. The amount of tuition and fees charged to students and the element of legal control and authority are often the principal differences.

Any bibliography covering the topic of independent higher education and government must include publications dealing with the issue of accountability vs. autonomy, the effects of compliance with laws, regulations and guidelines on institutional policies and practices, constitutional questions and the impact of public funds on the private sector.

TOPIC ORGANIZATION

11: Independent (Private) Higher Education
- 1.0 State Government Role
- 2.0 Federal Government Role
- 3.0 Issues and Policy
- 4.0 Financial Policy

1.0 STATE GOVERNMENT ROLE

11:1.0/77

Final Report and Recommendations: Task Force on State Policy and Independent Higher Education, 52 pp. (Education Commission of the States, Denver, Colo.).

This report recommends that each State develop a policy regarding the independent institutions that serve its citizens. Such a policy should be developed in light of State purposes and with a clear understanding of the conditions and role of independent colleges and universities. Full participation by the independent sector in statewide planning is urged. The report suggests alternative approaches to State support; such as a student-centered approach for the creation of a network of institutions, both State and private, providing services and subsidized through direct or indirect grants, contracts, loans and other means. The choice of alternatives would be largely determined by constitutional restraints and by the history and tradition of the State's higher educational structure. The importance of maintaining institutional integrity and autonomy in both private and State institutions is stressed. Adequate but not burdensome procedures should be developed to provide accountability. The report emphasizes the need to continue and enlarge Federal programs, especially through the mechanism of the State Student Incentive Grant Program.

The report also examines the current (1976-77) status of independent higher education, its role in serving the public interest, and the rationale for maximum utilization of the private sector. Constitutional and legal issues in each of the 50 States are discussed. The report is well-documented by statistical tables and a series of exhibits detailing existing State programs, fund expenditures, participation in statewide planning, court decisions, enrollments, tuition differentials, etc.

11:1.0/76

Private Higher Education and Public Funding, Louis T. Benezet, 62 pp. (American Association for Higher Education, Washington, D.C.).

In this paper Louis T. Benezet discusses in narrative form the present status of private higher education, describes the various kinds of public funding that have been provided, and analyzes the issues of independence and autonomy, public policy, and the rationale for a dual system of higher education in America. In the first chapter Benezet admits that private higher education is in trouble and cites evidence that this is an ongoing problem. He reviews the efforts to gain substantial financial support from donors and from business and industry through organized, cooperative efforts such as the State foundations of private colleges and the Independent College Funds of America. He concludes that although the total dollars raised in this effort have been significant, the result has been disappointing in relation to total institutional operating budgets. He concludes that the private sector cannot survive entirely on its own and that recourse to tax funds is inevitable. He then proceeds to discuss Federal aid policies and programs, traces their development, and evaluates their effectiveness. He makes a critical evaluation of the "Private College Case." Finally, in his summary and conclusions he calls upon private institutions to challenge certain basic assumptions by addressing such questions as: How do the liberal arts liberally educate people?; Do private college faculty members give personal attention to students? If so, what differences in outcomes are evident?; What impacts do institutional autonomy and diversified financial support have on a college campus? Perhaps the chief contribution of Benezet's study is his critical but non-partisan approach to a subject that has few objective commentators.

11:1.0/74

State Financial Measures Involving the Private Sector of Higher Education, William H. MacFarlane, A. E. Dick Howard and Jay Chronister, 105 pp. (Association of American Colleges, Washington, D.C.).

Commissioned by the National Council of Independent Colleges and Universities, this study examines the rationale for State aid to the private sector with respect to its historic bases, its legal bases, its programmatic bases and its policy bases. A chapter written by A. E. Dick Howard, a law professor at the University of Virginia, explores the constitutional aspects of State aid and, in an appendix, the provisions of the constitutions of the 50 States are reviewed together with a brief statement on any litigation instituted in those States. One chapter discusses characteristics of various types of State aid and uses tables to indicate what kinds of programs States have established. Student support programs are then described in more detail and a brief statement is made on the impact of State programs on private colleges and universities. The study is an accurate and reasonably detailed account of the status of State programs in 1973 but because of the rapid changes that take place in programs and funding levels with each succeeding session of the legislatures, the information given is useful chiefly as an historical base.

11:1.0/72

State Aid to Private Higher Education, Carol Shulman, 38 pp. (American Association for Higher Education, Washington, D.C.).

The author reviews private higher education's claim that it provides diversity, and vis-à-vis public higher education, permits innovation more readily, gives students more attention by reason of smallness and more freedom from political control. She then cites the pragmatic financial reasons for public support of private higher education. To illustrate one reason, she asks what would happen if private institutions were to close and the State universities had to absorb the enrollment of the private sector. She discusses the various methods of giving aid to the private colleges. She raises the question of whether student aid really increases the enrollment in private colleges to the point where institutional financial needs are alleviated.

Carol Shulman analyzes the various formulas which were either proposed or in effect as of 1972. She discusses the problems created by the new State-private college relationships such as accountability, loss of autonomy through State intervention, loss of diversity in student bodies if students are primarily in-State residents, and the possible surrender of a highly selective admissions program. Shulman discusses the question of constitutionality under State constitutions and provides a bibliography of material relevant to the subject but prepared for the most part at the State level. The book lists various State programs established as of 1972.

11:1.0/68

New York State and Private Higher Education: Report of the Select Commission on the Future of Private and Independent Higher Education in the State of New York, 145 pp. (New York State Department of Education, Albany).

This report is of particular interest because it is a landmark in that, although a number of States had made direct grants to private colleges and universities, it was the first proposal for across-the-board grants to all eligible institutions based on a formula related to degrees granted. The report's stated purpose was to ease the financial crisis of private, independent institutions of higher education in the State of New York. It proposed to give direct aid to eligible non-denominational colleges and universities for general educational purposes. The amount of aid was to be based on the number of annual earned degrees with different levels of funding for bachelor's, master's and doctoral degrees. The report urged the establishment of a statewide coordinating and planning agency for private institutions, and proposed planning grants for the development of inter-institutional cooperation among both private and public institutions. The report also recommended that the State constitution be amended so that all private institutions would be eligible for State aid. The report omitted any reference to support for 2-year colleges. (The recommendations of this report were implemented and the program set a standard for the other States to emulate. A referendum on the constitutional provision failed to enact the recommended change.)

See also: 15:1.2/71 The Capitol and the Campus: State Responsibility for Postsecondary Education, Carnegie Commission on Higher Education, 156 pp. (McGraw-Hill Book Co., New York).

10:1.2/71-1 Statewide Coordination of Higher Education, Robert O. Berdahl, 285 pp. (American Council on Education, Washington, D.C.).

9:4.3/77 The States and Private Higher Education: Problems and Policies in a New Era, Carnegie Council on Policy Studies in Higher Education, 206 pp. (Jossey-Bass, San Francisco).

2.0 FEDERAL GOVERNMENT ROLE

11:2.0/72

Institutional Aid: Federal Support to Colleges and Universities, Carnegie Commission on Higher Education, 290 pp. (McGraw-Hill Book Co., New York).

Although this study does not deal specifically with the private sector, it is apparent that the private as well as the public sectors are included as a possible recipient of Federal aid. The book analyzes the various formulas proposed for the distribution of Federal grants and discusses the distribution patterns which each would involve. The responsibility of both the Federal Government and the States for higher education is explored in depth, the importance of diversity in academic programs is stressed, and such subjects as the responsiveness to the financial crisis, the resource gap and the tuition gap, and the need for Federal support to serve Federal priorities are treated. The idea of cost-of-education supplements to student aid is discussed and the subject of constitutional feasibility is explored. The book has 12 appendices of special interest including a collection of statements from higher education associations reflecting their positions on whether and how Federal grants should be provided and administered, a listing of selected institutional grant proposals and formulas, a listing both of private and public institutions by type and enrollment and a collection of relevant quotations from Earl F. Cheit, William W. Jellema, William Bowen and others on the financial situation in colleges and universities.

3.0 ISSUES AND POLICY

11:3.0/77

Private Colleges: The Federal Tax System and its Impact, Gerald P. Moran, 88 pp. (Center for the Study of Higher Education, University of Toledo, Ohio).

This is an extremely useful little book which brings together a great deal of information about one of the most important sources of support for the private sector of higher education. Law Professor Gerald P. Moran first discusses exemption from Federal income taxes. He reviews the philosophical bases and historical precedents which led to the acceptance of the principle of tax exemption, describes the problems which have arisen as a result of definitional difficulties and modern business practices, and discusses recent representative cases and rulings dealing with private colleges and universities. He then provides a similar coverage of the charitable deduction as a motivation and a mechanism for providing financial support to independent colleges and universities and other eleemosynary organizations. He commends the Filer Commission Report which urges increased deductibility from income of such contributions and proposes that such deductions be available to taxpayers using the standard deduction. He reports on the governmental cost of tax subsidies and reviews current rules on such matters as capital gains, ordinary income, estate and gift taxes, etc.

He also discusses the role of the private college, especially with reference to ethical control and use of endowments, briefly discusses the concept of tax credits and reflects on the responsibility of a college to be concerned about the tax interests of faculty and staff. This book should be of interest, not only to the members of boards of trustees of private colleges and universities, but also to higher education planners who are often unaware of this important source of revenue to both State and private institutions.

11:3.0/76

Endangered Service: Independent Colleges, Public Policy and the First Amendment, 144 pp. (National Commission on United Methodist Higher Education, Nashville, Tenn.).

This book is an analysis of public policy and legal issues related to institutional-state and church-state relationships. It examines alternative social goals for public policy and strategies to implement such goals. The book discusses independent colleges and the public service they perform and argues that it is important that State and Federal policy recognize that service, and preserve its benefits to society. It stresses the importance of diversity and autonomy and urges that the government be aware of the need to preserve these characteristics. The book explores the values of freedom of choice for students in selecting the institution to attend and states that the formidable financial barriers to freedom of choice should be removed by the establishment of offsetting financial assistance.

The book devotes much attention to constitutional questions. It reviews the relevant court decisions and concludes that the legal validity of aid to the private sector has been substantially established. The book states, however, that the case has not yet been won in relation to the acceptance of firm and generally accepted public policy. The book stresses the importance of continued tax exemption for private colleges, urges the continuance of Federal and State tax policies providing incentives for voluntary support, suggests that private institutions be deeply involved with the public sector in statewide planning and finally urges State and Federal governments to make every effort to reduce the onerous burden, both financial and otherwise, imposed by excessive regulation and reporting requirements.

11:3.0/71

Tilton v. Richardson, The Search for Sectarianism in Education, Charles H. Wilson, Jr., 53 pp. (Association of American Colleges, Washington, D.C.).

Charles H. Wilson, Jr. was an attorney for the defendant Connecticut colleges in the landmark case, *Tilton v. Richardson*, on which the United States Supreme Court handed down a decision on June 28, 1971. The Court ruled in its 5-4 decision that church-related colleges may receive Federal grants to construct academic and other buildings under the Higher Education Facilities Act of 1965 with the restriction that such buildings may never be used for religious instruction or worship. Wilson reviews the court decisions leading up to *Tilton* and analyzes the majority opinion written by Chief Justice Warren Burger and the dissenting opinions. He then examines the implications of the decision and the criteria established by the Court. He also suggests what actions institutions may take to retain their historic sectarian tradition, and still remain on safe constitutional grounds. The criteria articulated by the Court set precedents for later decisions on institutional and student aid making the Wilson analysis substantively important and somewhat prophetic.

4.0 FINANCIAL POLICY

For analysis of financing and data see Topic 9: Finance, Subtopic 4.3, Private Colleges and Universities, and Subtopic 5.0, Financial Condition of Institutions.

11:4.0/74-1

A National Policy for Private Higher Education, Task Force of the National Council of Independent Colleges and Universities, 80 pp. (Association of American Colleges, Washington, D.C.).

This task force report on financing private higher education begins by stating the case and claiming that the preservation of the private sector

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is important because it maintains diversity, provides a system of checks and balances, sets a standard of excellence, reinforces academic freedom, champions liberal learning and values and relieves the taxpayers of a significant financial burden. It presents evidence of a mounting financial crisis in the private sector and stresses the importance of narrowing the "tuition gap" between charges made by private institutions and State colleges and universities. The report then addresses the problem of geographic inequities in State aid to students in the private sector and suggests modification of Federal student aid programs which would enhance their usefulness to students attending private institutions. It advocates statewide planning to avoid duplication of programs and wasteful competition. It stresses the importance of maintaining the tax deductibility and philanthropic gifts along with the necessity for continued tax exemption from real estate and other taxes. It urges private institutions to accept the effort of State institutions to raise funds from private sources. The major innovative idea set forth by the task force is that a program of tuition offset grants should be established by the States in an effort to narrow the tuition gap between private and State institutions. It offers the options of (1) making grants directly to an institution in payment for services, (2) providing grants to students on the basis of the cost of attending the institution, or (3) establishing offset grants to all students at private colleges. It advocates elimination of the need factor for such grants.

11:4.0/74-2

Private Colleges: Present Conditions and Future Prospects, Carol F. Shulman, 62 pp. (American Association for Higher Education, Washington, D.C.).

This study begins with a brief review of the history of American public aid to higher education from colonial times through the 19th and into the 20th Century. The author then deals with the problems of defining goals, formulating curricula and attracting students. She discusses the questions of distinctiveness, student characteristics, recruiting efforts, the benefits of private education and curriculum. The author then takes up the matter of government relations with private institutions. She reviews the state of government support in 1974 and the various programs by which such assistance is provided. She concludes that attendance in the private sector is affected by State student grants. She discusses the disadvantages of State student aid and indicates that a major hazard is for the State to develop a level of expectancy on the part of students and then disappoint them by failure to legislate adequate funds so that the institutions have to supplement public funds from their own resources.

She cites the increasing degree of State involvement in the management of private colleges as a disadvantage. A discussion of Federal aid leads to consideration of the church-state question of constitutionality and court decisions relevant to the issue.

Her review of the financial problems in the private sector is largely a recapitulation of Jenny and Wynn, Cheit, Jellema and other studies of the subject. She describes the burden of student aid furnished by the institution and speculates on the financial outlook for private higher education. The study is interesting chiefly as a reflection of the particular time and the conditions which existed when it was made.

11:4.0/73

The Management and Financing of Colleges, 94 pp. (Committee for Economic Development, New York).

This report was sponsored by a committee composed primarily of representatives of the business community which studies major economic issues facing society. It has been published, widely disseminated, and discussed in a series of regional meetings but seems to have had relatively minor impact on government or higher education. It devotes attention to such matters as goals, objectives, accountability, and educational planning. Much emphasis is placed on management authority and responsibility with special reference to the reserving of these powers by trustees. Management and educational policy are discussed with emphasis upon management methods and personnel, management and budgeting, and management and the improvement of teaching. Strategies for economy, non-traditional education, academic freedom, security and due process, faculty tenure and collective bargaining are covered in the report. Special attention is given to strategy for increased financial support.

The primary target of the report's critics was the proposal to raise tuitions to a level nearer the cost of education in both public and private sectors and to provide the need-based grants and loans to students to help meet these increased costs. The report includes a number of specific recommendations relating to various phases of higher education.

11:4.0/72

To Turn the Tide, Paul C. Reinert, 111 pp. (Prentice-Hall, Englewood Cliffs, N.J.).

In 1971 Paul C. Reinert, S.J., President of St. Louis University, undertook "Project Search" to determine the situation in the private sector of higher education and to suggest what might be done "to turn the tide." He created a series of panels comprising educators, legislators, laymen, students, and business leaders to discuss certain basic questions about private higher education. Essentially this book developed from those discussions. The financial crisis in private higher education is described along with the rationale for the continued existence of private colleges. The whole question of college finance is explored and the author calls for a sharp improvement in internal management of the institutions. He then discusses the appropriate role for the States in relation to private higher education, which he deems to be that of leadership in pointing the way, and he advances arguments for increased Federal aid to follow. This book creates a sense of the urgency of the crisis for private higher education and it had considerable impact on various publics. While well-documented, it is not loaded with statistics but rather describes the problem and discusses the various factors including substantial government subvention necessary to achieving a solution. It has been an important book in the development of the relations of the private sector to State and Federal governments.

See also: 9:4.3/78 Public Policy and Private Higher Education, David W. Breneman and Chester E. Finn, Jr., ed., 468 pp. (The Brookings Institution, Washington, D.C.).

9:5.0/73 The New Depression in Higher Education: A Study of Financial Conditions at 41 Colleges and Universities, Earl F. Cheit, Carnegie Commission on Higher Education and the Ford Foundation, 169 pp. (McGraw-Hill Book Co., New York).

9:5.0/A Private Higher Education, (First, Second, Third) Annual Report on the Financial and Educational Trends in the Private Sector of American Higher Education, W. John Minter and Howard R. Bowen, 110, 116, 77 pp. (Association of American Colleges, Washington, D.C.).

12

Institutional Role and Mission

John D. Millett

The subject of institutional role and mission is concerned with efforts to describe or to prescribe differential purposes for various colleges and universities comprising the universe of higher education. It has long been recognized that individual colleges and universities serve different ends, even though the differences are frequently muted in institutional self-description and even though diversity is often forgotten in the competition for enrollment growth. Administrators and faculty members may object strenuously to the efforts of others to describe their unique characteristics, and sometimes resist the prescription of a specialized role set forth by a State board of higher education.

Differences among colleges and universities are of many kinds. One fundamental difference is that between public and private sponsorship. Although the distinction is familiar, the meaning and the scope of the difference have not been simple to articulate. Another difference is that between the residential and the commuting or urban institution, the former providing or supervising housing for its students and the latter enrolling students who commute from a family residence. The residential

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institution tends to attract primarily full-time students; the commuting institution may enroll large numbers of part-time students. A third distinction is one between selective admission and open admission, between institutions prescribing certain ability and other standards for entry and institutions admitting any high school graduate or any person with the equivalency of high school completion.

The most important distinction among institutions, however, is the distinction based upon program. The primary scheme of classification of colleges and universities in the United States differentiates institutions by major purpose: the research university, the comprehensive university, the liberal arts college, the separate specialized professional school, and the two-year institution. In some instances the comprehensive university may be an upper-division and graduate study institution.

Differential Roles. The classification of institutions by one or more predominant characteristics is necessarily accompanied by an effort to explain the basic differences. These explanations reflect observations about differences in purpose and differences in performance. To some extent differences arise from variations in quality, and qualitative differences are likely to be reflected by differences in economic resources. For State government boards of higher education with their authority to promulgate master plans, to approve academic programs, and to coordinate institutional operations in terms of statewide needs—at least insofar as State-financed institutions are concerned—the prescription of different roles and missions for different campuses is an essential part of higher education planning.

Public Interest. Different types of educational programs among different types of institutions may be considered an appropriate response to diversity in social expectations. Perhaps no aspect of the study of higher education as a vital social institution has been more neglected than this subject of social expectation. This circumstance may partly be attributed to the pluralistic and liberal features of American society. Social expectation is expressed through the voices of many groups and interests and through actions of nongovernmental as well as governmental agencies. Partly, this circumstance may be attributed to the reluctance of American leaders to set limitations to social aspirations. The desirable and reasonable social expectations to be addressed to colleges and universities must currently be considered in a state of flux, and still in need of analysis and determination. No doubt these social expectations have to do with the preservation and transmission of knowledge and culture; the cognitive, affective, and skills development potential of individuals; the provision of educated manpower to the economy; the encouragement of social mobility based upon talent; the advancement of knowledge and the patronage of creative abilities; the utilization of knowledge and creative ability for the practical and esthetic benefit of society; and cost-effective service.

The Need for Institutions. The expectations of society for benefits from higher education must be translated into the organizational reality of particular colleges and universities. To some extent the determination of the need for particular educational programs, and for particular enterprises able to deliver these programs, occurs within a governmental context, reflecting the political response to perceived and desired benefits. To some extent the determination of need for particular education programs and enterprises occurs within and among voluntary groups. A sense of need usually precedes the decision to build and support a particular kind of higher education enterprise.

Program Review. Once established, colleges and universities develop their own dynamic. The internal aspirations of administrative leaders, faculty members, and students may lead to various kinds of program change and program expansion. The availability of new sources of income may encourage new kinds of educational ventures. Changing social circumstances may induce varied response by particular colleges and universities. The programs of a college or university may come under external review in an effort to ensure qualitative performance, appropriate action to meet social needs, and the utilization of scarce economic resources for programs of highest priority. As the performance of various educational programs involved more and more requests for social support in terms of charges to clients, of appeal to benefactors, and of expected subventions by government, colleges and universities have found themselves increasingly subject to program scrutiny. Such scrutiny can be expected to increase in intensity and scope with changing social perceptions of the benefits being derived from higher education.

No outline, no orderly presentation of a particular planning subject, can hope to avoid overlap with other subjects or to provide a precise presentation of research findings and general observations. The subject of institutional role and mission is no exception to this rule. The outline here is at best suggestive; it cannot achieve orderliness where no such order exists. The outline is at best indicative of a range of concerns present in higher education planning.

It must be emphasized here as elsewhere that governmental as well as nongovernmental planning is concerned with the determination of roles and missions for particular colleges and universities. In turn, governmental planning in a federal structure of political power involves local units of government, State units of government, and the Federal government. Just as there is no simple structure to American society, there is no simple structure to higher education planning.

TOPIC ORGANIZATION

12: Institutional Role and Mission
  1.0 Differential Roles
    1.1 Institutional Purposes
    1.2 Classification of Institutional Roles
    1.3 Profiles of Institutional Types
    1.4 Planning Distinctive Missions
  2.0 Public Interest
    2.1 Social
    2.2 Economic
    2.3 Political
  3.0 Need for Institutions
  4.0 Program Review

1.0 DIFFERENTIAL ROLES

1.1 Institutional Purposes

12:1.1/73

The Purposes and the Performance of Higher Education in the United States: Approaching the Year 2000. Report and Recommendations by the Carnegie Commission on Higher Education, 107 pp. (McGraw-Hill Book Co., New York).

In some respects this report of the Carnegie Commission might be considered the most important single document among the some 21 reports the Commission has issued. Acknowledging that there were both internal and external conflicts over the purposes of higher education, the Commission declared that there were five "main purposes": the development of students, the transmission and advancement of learning, the advancement of human capability, the enlargement of educational justice, and the critical evaluation of society through individual thought and persuasion for the sake of social self-renewal.

In terms of fulfilling these purposes, the Commission rated student development as generally adequate, the transmission and advancement of knowledge as superior, the advancement of human capability as superior, the enlargement of educational justice as unsatisfactory but improving, and the critical evaluation of society as uneven in the past and uncertain for the future.

The Commission proposed a number of ways to improve performance: more attention to general education, more concern about the quality of the educational environment, a steadier supply of Federal research funding, a major expansion of opportunities for lifelong learning, a more determined effort to provide places in college for low-income and minority groups, and better rules and understandings to handle society's critical evaluation.

The Commission points out that there were three major doctrinal views regarding the central purpose of higher education. One view was that higher education should be concerned with a search for and socialization of values, a view supreme in the United States before the Civil War, according to the Commission. The second view was that higher education should further the evolution of knowledge and of skill development within existing society, a view dominant in the past century. The third view argued that higher education should prepare the way for, or assist the perpetuation of, some designated type of society. The Commission identifies this third view as the main challenge to the still dominant view as to the purpose of higher education.

1.2 Classification of Institutional Roles

12:1.2/76

A Classification of Institutions of Higher Education, revised edition, Report of the Carnegie Council on Policy Studies in Higher Education, 126 pp. (CCPSHE, Berkeley, Calif.).

First published in 1973, the revised edition brings up to date a taxonomy of institutions of higher education useful for planning and research. The revision adds some institutions, eliminates others, and changes the category of still others.

The Carnegie classification scheme basically groups institutions by mission: doctoral-granting universities, comprehensive universities, liberal arts colleges, 2-year institutions, and specialized or professional institutions. Numbers of institutions and enrollment by type have both been provided for 1970 and 1976, along with the percentage of change in this period. The total number of institutions enumerated as of 1976 was 3,074. Enrollment by basic mission was distributed as of 1976 as follows:

	Percent
Doctorate Granting Universities	27.4
Comprehensive Universities	28.4
Liberal Arts Colleges	4.8
Two-Year Institutions	35.6
Specialized Institutions	3.8

The classification offers several sub-groupings within each general category, as well as a division between public and private governance. For 1976 each campus in the United States has been assigned to its appropriate classification. It is noteworthy that while enrollments were some 2.6 million students higher in 1976 than in 1970, the proportion of total enrollment in public institutions advanced from 74.8 percent to 78.4 percent. The proportion of students in doctorate-granting universities in that same time period declined from 31.4 percent to 27.4 percent; the proportion in comprehensive universities declined from 29.6 to 28.4 percent; the proportion in liberal arts colleges declined from 8.1 to 4.8 percent; the proportion in specialized institutions increased slightly from 3.4 to 3.8 percent. On the other hand, enrollment in 2-year institutions advanced from 27.5 to 35.6 percent of total enrollment.

The planning process of the roles and missions of colleges and universities will necessarily begin with a consideration of the Carnegie classification.

1.3 Profiles of Institutional Types

12:1.3/78

The Community and Junior College, Collins W. Burnett, ed. 147 pp. (College of Education, University of Kentucky, Lexington).

This compilation of articles about the 2-year community college summarizes current knowledge about the largest and most rapidly growing sector of the higher education system in the United States. If 2-year institutions attached to 4-year colleges and universities are included, 2-year institutions as of 1977 had some 36 percent of all student enrollments, more than such other sectors as doctoral granting universities, comprehensive universities, baccalaureate colleges, and specialized colleges and seminaries.

Several subjects are reviewed in terms of the available research findings: the history of the private junior college, foreign adaptations of the American community college, the contrasting experience of "native" and transfer students in obtaining a baccalaureate, the transfer problem between 2-year and 4-year institutions, and faculty characteristics in the 2-year college.

A particularly useful chapter describes the student personnel program in a community college. The outline of a comprehensive program drawn from various studies presents a vivid portrait of how the community college seeks to serve its unique student body.

Only one instructional program of the community college is discussed in the volume – the program in allied health technologies. The absence of attention to instructional programs, instructional objectives, and curriculum is the principal defect of this otherwise valuable summary.

12:1.3/76

The Regional State Colleges and Universities in the Middle 1970's. Fred F. Harcleroad, Theodore Molen, Jr., and Suzanne Van Ort. 103 pp. (Higher Education Program, University of Arizona, Tucson).

This study is the third and most recent report on the growth and expansion of regional State colleges and universities. In general, the institutions identified as regional State colleges and universities were the some 324 institutions comprising the American Association of State Colleges and Universities. The Association cooperated in developing the data presented in these reports.

The objectives of the report are to describe, for the decade since 1966, the general institutional changes: the institutional characteristics in enrollment size, program offerings, and financial support; prevailing patterns of administrative organization; and the development of plans for future program endeavors.

For the most part, regional State colleges and universities were of two kinds: former teachers colleges which had expanded program mission and enrollment, and urban universities meeting a variety of urban higher education needs. The studies developed a useful 2-dimensional framework for classifying higher education institutions, both by level of degree programs (associate, baccalaureate, master's, and doctoral), and by program orientation (applied vs. theoretical).

This report (covering 1975 data) indicates continued enrollment growth (especially in graduate programs), expansion of technical and professional programs other than those of teacher education, increased attention to new and innovative instructional programs, some improvement in library holdings, stability in student/faculty ratios, an increase in per student expenditures, and increases in income from student fees primarily in the midwest and northeast regions of the United States.

All three of these reports on regional State colleges and universities set forth the relative state of well-being for an important and often overlooked segment of public higher education. Moreover, the mission, program offerings, and enrollment size of these particular institutions will become major planning problems for the 1980's.

12:1.3/72-1

Education and Evangelism, A Profile of Protestant Colleges, C. Robert Pace. 123 pp., Study for the Carnegie Commission on Higher Education. (McGraw-Hill Book Co., New York).

The author found that there was no short, direct answer to the question: What is a Protestant college? Protestant denominations have founded over the years more than 1,000 colleges in the United States, and about 600 of these were still operating in the 1960's. Some Protestant colleges and universities have become non-sectarian in affiliation. Other colleges are in the process of relaxing their denominational ties. A third group continues its relationship to major denominations, but the denominations themselves have become less evangelical. A fourth group consists of colleges related to evangelical and fundamentalist churches. Collecting data from a sample of 88 such colleges, a profile was drawn.

In terms of environment, the evangelical and fundamentalist colleges were found to be more homogeneous than other denominational Protestant colleges or comparison groups. The Protestant colleges tended to have a considerable sense of community, to observe standards of decorum, and to be somewhat less committed to ideals of scholarship than comparison institutions. The sense of religious commitment was strongest within the evangelical and fundamentalist colleges, and somewhat evident in the "mainline" Protestant colleges.

The author concludes that there is no typical Protestant college student or alumnus. The colleges tended to be somewhat small in enrollment size, to be friendly places, to be occasionally innovative, to be residential, to have increasingly permissive social regulations, to be uncertain about religious faith, and to be increasingly moralistic in attitude toward social and economic problems.

12:1.3/72-2

The Home of Science. The Role of the University, Dael Wolfle, 201 pp., Profile prepared for the Carnegie Commission on Higher Education. (McGraw-Hill Book Co., New York).

This study maintains that the American university at the end of the nineteenth century became the principal home of science and research activities. The author proposes that this development was not the conscious determination of some planning body, but the consequence of interrelated intellectual and economic influences.

The author traces four major themes: the professionalization of science, the search for sponsors, the selection of the university as the appropriate location of professional scientific endeavor, and the development of the university's commitment to graduate study and research. The impact of science upon higher education is identified as fourfold: the break-up of the college tradition, encouragement to specialization in the humanities and social sciences, institutional fragmentation and dispersal of power, and inter-institutional competition.

The experience of World War II and the increased involvement of the Federal Government in the growth of university science necessarily is a major part of the story. Research support of university science grew from $300 million in 1953, to over $2.6 billion in 1973, with 60 percent of this support coming from the Federal Government.

The author also gives careful attention to the rationale for university research activities as a key function in scientific study. One justification is that practical applications of knowledge can have social benefits. Another justification is that science is the new frontier for humanity to explore. It has even been suggested that scientific research is the modern equivalent of Egypt's pyramids or the medieval cathedral. Unfortunately, it is not easy to formulate the university rationale. The convincing argument is the expectation of social benefit; the conviction is weakened when the expectation is not fulfilled.

In turn, there is the question about governmental rationale in supporting university research: national defense, international prestige, social benefit. University research has become government dependent. Government support seeks national objectives, a national interest, still to be clearly identified, advocated, and realized.

12:1.3/72-3

The Invisible Colleges. A Profile of Small, Private Colleges with Limited Resources, Alexander W. Astin and Calvin B. T. Lee, 146 pp., Study for the Carnegie Commission on Higher Education. (McGraw-Hill Book Co., New York).

Declaring that colleges and universities in the United States have evolved into a "highly refined" hierarchy consisting of a few elite institutions, a substantial middle class, and large number of relatively unknown institutions, the authors of this study sought to describe this third group — the one-third of all 4-year institutions comprising the little known private colleges. Although the term "invisible" was considered by some as pejorative, the authors had two primary characteristics in mind: a relatively low degree of student selectivity for admission and relatively small enrollment size. In general, the criteria for defining the type of institution described were SAT composite scores below 1,000 and enrollment size below 2,500.

The authors present a brief historical sketch of the invisible colleges. Among administrative characteristics, the invisible colleges were found primarily in the midwest and southeast regions, tended to have religious affiliations, included most of the private, predominantly black colleges, tended to have lower annual tuition charges to students, tended to have a smaller proportion of faculty members with doctoral degrees, and had modest endowment resources per student. Other chapters present data about student characteristics, learning environment, and educational effects.

The authors conclude that the problems of the invisible colleges were qualitatively different from those of the elite colleges. They declare that there was no strategy for the survival of these colleges that did not jeopardize their small size or their private status. The most important attribute of the invisible college is identified as its small size. These colleges were educationally useful in serving a student body not equally well served by the elite private college or the larger public college or university.

The authors assert that the invisible college in general justified its existence and was in large measure ignored or overlooked in State and Federal government planning. Increased enrollment size is given as an imperative, as well as curriculum development more nearly consistent with the actual educational mission of the institution.

12:1.3/71-1

Between Two Worlds, A Profile of Negro Higher Education, Frank Bowles and Frank A. De Costa, 326 pp., Study for the Carnegie Commission on Higher Education. (McGraw-Hill Book Co., New York).

In this study the authors set out to describe and analyze the condition and role of the historically Negro college. They found that by the late 1960's these colleges no longer held the pre-eminence they once did for the black student. During a 50-year period in the South, black colleges were the sole custodian of black literacy, black history, and black aspirations. Moreover, the principal professional opportunity open to black graduates was to teach in black elementary and secondary schools. However, opportunities for black access to a wide variety of colleges and universities had expanded substantially in the 1960's.

By the end of the 1960's it was clear that the unique role of the historically Negro college to provide educational opportunity for black students had ended. No longer bound by its traditional mission and obligation, the historically Negro college was now free to undertake a new role. Exactly what this new role would be remained uncertain.

After a substantial presentation of historical, statistical, and descriptive data, the authors turn to speculation about the future. Obviously the world of higher education for black students was in transition. Should students be prepared to participate in black society or in an integrated society? Whatever the objective, would the educational needs of black students be better met in a segregated or integrated learning environment? How could the competence of black students to compete with white students be advanced? How could the deficit of professional blacks be most rapidly and effectively reduced? Like others, the authors had no precise answers to these complex issues.

The authors assert that there remains a mission for the historically Negro college to perform: to take students of poor preparation, to fit them into appropriate educational programs, and in time to qualify them for a professional position within the black community or a permanent position with a reasonable future in the white community. Finally, the authors insist that public policy and public programs should assist the predominantly black college in fulfilling this mission.

12:1.3/71-2

Breaking the Access Barriers: A Profile of Two-Year Colleges, Leland L. Medsker and Dale Tillery, 183 pp., Study sponsored by the Carnegie Commission on Higher Education. (McGraw-Hill Book Co., New York).

Co-authored by a leading proponent of the community college, this study is both an account of and an explanation for the phenomenal growth of 2-year colleges in the 1960's. The authors assert that three principal factors were involved in the expansion. One factor was the increased demand for technically educated personnel in American business and government. A second factor was the increased governmental financing available to veterans and others with which to meet the personal costs of going to college. The third factor was the aspiration of individuals to know more about themselves and the world of which they are a part. Statistical data of various kinds were used to demonstrate the facts of growth.

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Considerable attention in the study was given to a statistical profile of the community college student. In terms of academic ability, the students tended to fall in the second and third quartiles, just above and below the median. The family income corresponded similarly. Few community college students were of high academic ability and high family income, but few were of low academic ability or low family income. Although about two-thirds of community college students declared an intention to transfer to a 4-year program, only about one-third actually did so. Only about one-third of all newly enrolled students completed a 2-year instructional program.

In terms of instructional programs, the authors stress the tendency to offer a wide variety of opportunities, especially in career education. The discussion of developmental or remedial education anticipated but could not fully forecast the experience which occurred in the 1970's.

There can be no doubt that the community college in the 1960's achieved a central role in American higher education. That role involved a promise of educational achievement, career development, and community service for a whole new class of citizens. It remains to be seen whether or not this promise will be fulfilled in the 1970's.

12:1.3/71-3

Models and Mavericks, A Profile of Private Liberal Arts Colleges Morris T. Keeton, 191 pp., Study for the Carnegie Commission on Higher Education. (McGraw-Hill Book Co., New York).

In an effort to provide a rationale for the private college, this study argues that these institutions could relieve the burden of overcrowding in public institutions and could "undertake ventures in qualitative achievement." Qualitative achievement was identified in terms of three perspectives: the freedom to orient student life and a curriculum to a particular religious or philosophical point of view; the opportunity for unique instructional achievement; and the freedom to undertake socially useful but often risky innovation.

One chapter discusses the idea of quality based upon distinctive philosophy. Another chapter develops the idea of quality based upon distinctive resources. Still a third chapter presents "vignettes" of five "excellent colleges."

The author then argues persuasively for a public policy aimed at preserving and fostering a "dual system" of higher education. The elements of a desired public policy are presented as grants and loans to individual institutions, support of institutions in meeting the costs of an expanded enrollment, and extended support for construction and special programs. The author also insists that private colleges should realign their authority relationships, improve internal communication, and strive for greater decentralization of management.

12:1.3/70

The Upper Division College, Robert A. Altman, 202 pp. (Jossey-Bass, San Francisco).

This book traces the historical development of upper division colleges and universities established to draw students from public community colleges. To supplement and extend the community college system, State planners and State governments identified particular places in their State where upper division colleges or universities should be established. The total number of such universities at the time of the study was about 15, concentrated largely in Florida, Illinois, and Texas. The mission of these institutions was to achieve an articulation with 2-year campuses and to meet regional needs for baccalaureate and master's degree instructional programs.

Since most such upper division colleges were established in the 1960's, the author has only a relatively brief history to report. He describes some of the early operational difficulties, but overlooks the reluctance of faculty members newly recruited from graduate schools to accept and implement the institution's mission. In some instances the enrollment proved to be less than planners had anticipated, for reasons that deserve much more attention than has been given to the subject.

12:1.3/69-1

Colleges of the Forgotten Americans, A Profile of State Colleges and Regional Universities, E. Alden Dunham, 206 pp., Study sponsored by the Carnegie Commission on Higher Education. (McGraw-Hill Book Co., New York).

The colleges and universities examined in this study are essentially of two kinds. One is the teachers college which evolved in the 1950's and 1960's into a comprehensive university, adding more courses in the arts and sciences and new professional schools (mostly of business and fine arts) to a curriculum previously preoccupied with the professional education of teachers. The second kind was the State urban university, newly created or newly transformed from some earlier sponsorship in order to expand the opportunities for higher education.

The author makes clear that the colleges and universities he describes were indeed varied in their history, their performance, and their expectations. What the colleges and universities had in common was public sponsorship, new program ideas or new concepts of service, and the lack of prestige and status associated with older State universities and selective private colleges and universities. The colleges and universities Alden portrays are the institutions which absorbed most of the great enrollment expansion of the 1960's, only to give way in the 1970's to the continued growth of community colleges.

One consequence of a changing mission for State colleges and universities in the 1950's and 1960's was the impetus to create State boards of higher education to keep program expansion under control. Another consequence was the appearance of multi-campus governing boards inherited from the days when a single State board of education operated several different teachers colleges. These consequences were not explored in the volume. The author already had a substantial task in sketching student characteristics, faculty expansion and aspiration, program proliferation, and administrative styles in this new kind of higher education institution.

12:1.3/69-2

From Backwater to Mainstream, A Profile of Catholic Higher Education, Andrew M. Greeley, 184 pp., Study for the Carnegie Commission on Higher Education. (McGraw-Hill Book Co., New York).

Some 350 of over 2,800 institutions of higher education enumerated by the Carnegie Commission were related to the Roman Catholic Church. Yet there was more diversity in organization and operation under this heading rather than a massive, smoothly organized, and efficient monolithic structure. There were, of course, similarities. The Catholic colleges and universities were generally established by various religious orders of the Church, usually presided over by priests or nuns, subsidized in some measure by contributed services, committed to the Catholic faith, and founded primarily to provide higher education opportunity to Catholic immigrants in the large cities of the United States.

Of the 350 institutions identified in the study, more than 100 had been founded after 1950. These newer institutions tended to be junior colleges or colleges for women. A considerable proportion of the colleges founded for men prior to 1950 were no longer in existence.

In various ways the distinctive religious objectives of the Catholic college have been altered by the increasing participation of Catholics in the mainstream of professional, managerial, and technical positions in American society. As some Catholic youth entered nonsectarian and public institutions of higher education, the Catholic institution did not dare to offer educational opportunity of a lesser quality. And the urban location of the Catholic university encouraged a non-Catholic student enrollment in many professional programs. Increasingly, the Catholic institution has been challenged to determine what is distinctive about Catholic higher education.

The Catholic institution has found itself beset in recent years by rising costs, an increasing proportion of lay faculty members, difficulties in recruiting competent and effective top-level administrative personnel, expanded public higher education opportunities in urban areas, and questions of relationship to community and Church.

12:1.3/69-3

The Liberal University: An Institutional Analysis, J. Douglas Brown. 263 pp. (McGraw-Hill Book Co., New York).

This book, by the dean emeritus of faculty and former provost of Princeton University, was written:

> . . . to analyze the purposes, organization, policies, and the processes of a particular type of university; that is, the 'liberal university' as later defined. In this analysis, the aim has been to keep constantly in mind the inter-relations, tensions, and interactions normally present in the operation of an institution which must be responsible to many categories of constituents. The emphasis is, therefore, upon *how* these various elements and interests can be brought into moving equilibrium in advancing the mission of the institution.

As viewed by the author, the key attributes of a liberal university are that it be person-centered, rather than knowledge-centered; value-centered rather than neutral of or divorced from values; concerned with fundamental knowledge and its integration; given to emphasizing independent study and individualized instruction; and prove to encourage individual freedom and promote individual responsibility. From this description the author proceeds to discuss the constituent elements, functioning, and problems of a liberal university in the following sequence: organization, the presidency, the faculty, the administration, the trustees, the students, and the alumni. Attention is directed principally toward policies and administrative arrangements that can form a consistent whole. Some of the most rewarding chapters (in later sections of the book) deal with issues concerning academic policy, questions of economy and control, and problems of external relations.

The author draws on 21 years of experience as dean and provost and earlier specialization in the study of industrial relations and organization to provide a wealth of observation and analysis. Among the topics covered are academic freedom and tenure, the relation between teaching and research, the role of the university press, the optimal size of enrollment, the control of subject specialization, the control of sponsored research, and faculty salary policies and procedures.

1.4 Planning Distinctive Missions

12:1.4/77-1

Career Education in Colleges, Norman C. Harris and John F. Grede, 419 pp. (Jossey-Bass, San Francisco).

In this guide for planning 2- and 4-year occupational programs for employment, the authors argue that the conflict between "education for life" and "education for a living" is no longer meaningful. Career education is presented as the new object – the new unifying force for higher education. And, of course, a concern for careers is scarcely foreign to the history of American higher education.

The first part of this volume presents a discussion of change in higher education prospects, the student's increased attention to career opportunities, changes in the composition of the labor force, and institutional settings for career education. The second part presents a discussion of career education in business, engineering and technology, allied health fields, public service, and the liberal arts. The third part deals with the planning, the financing, the management, and the governance of career education.

It is understandable if the authors tend to give more attention to the community college than to 4-year baccalaureate programs in the light of their own experience and expertise. Yet much of what they have to say is as applicable to education for the bachelor's degree as it is to education for the associate degree. The observations and insights are worth careful attention in both 2-year and 4-year institutions. But those educated in the arts and sciences during the 1950's and 1960's will find it difficult to accept a supportive role to career education. Change is not all that easy for faculty members committed to a particular intellectual tradition.

12:1.4/77-2

The Future of Adult Education, Fred Harvey Harrington, 238 pp. (Jossey-Bass, San Francisco).

In this volume the former president of the University of Wisconsin looks at the education of adults as one part of the mission of higher education. The author asserts that "the day of the adult is coming to higher education in the United States, if it is not already here." The largest and most successful adult education enterprise has been agricultural extension. This experience, along with other efforts, provides a back drop for future planning.

The author's approach is eclectic. Considering the not-too-reassuring record of adult education through on-campus courses for credit, he reviews new opportunities for off-campus credit programs. Continuing professional education and continuing general education for adults are additional program interests and possibilities he examines. His review of agricultural extension gives way to the uncertainties of urban extension.

Finally, higher education obligations to the disadvantaged are fitted into the portrait.

The problems of program focus are considered in the framework of academic administration and of financial management, concerns that no academic planner or administrator can ever ignore. The list of recommendations for action are timely and persuasive.

Higher education has new opportunities to expand its endeavors in two important directions: the enrollment of non-traditional students in degree programs and the expansion of continuing education for adults. In considering these new opportunities no institution can afford to ignore the practical experience and the practical advice set forth in this volume.

12:1.4/75-1

Outlook and Opportunities for Graduate Education, Final Report of the National Board on Graduate Education, 73 pp. (National Research Council, Washington, D.C.).

Appointed in 1971 by the Conference Board of Associated Research Councils, the now defunct National Board on Graduate Education sponsored a number of studies and issued several reports intended to counteract an apparent diminuation of public interest and public support for graduate education. The National Board's final report of December 1975, was a kind of summary of some four years of study and discussion.

The report calls attention to the rapid expansion of graduate education during the 1960's, and then asserts that graduate education could only be as sound as the universities within which it was administered. The total financial condition of a university was identified as determining the quality of graduate programs. The problems confronting graduate education within the university context are enumerated as general financial retrenchment, a lower national priority for research, reduced labor market demand for Ph.D.'s, almost stable Federal government support in terms of dollars of constant purchasing power, and State government concern about graduate education planning.

In looking to the future of graduate education, the National Board gives particular attention to reduced labor market demand, reduced graduate student support, and the problem of access for women and minority students. The Board recommends that planning for graduate education be based upon the fundamental changes occurring in the 1970's, for they will affect higher education performance in the 1980's.

12:1.4/75-2

The States and Graduate Education, Report of the Task Force on Graduate Education, 29 pp. (Education Commission of the States, Denver).

This report represents an effort to provide guidelines to State governments in their planning for graduate education. The report begins with two assertions: that graduate education is essential to the welfare of the States and the Nation, and that the primary responsibility for providing graduate educational opportunity – including support of public universities – rests with State governments. The report proposes an effective institutional, State, and Federal partnership in graduate education.

The report urges coordinated planning for graduate education. Such planning should include multiple sources of support: primary support of graduate education in public universities by State governments, effective use of available resources, and Federal Government support of basic research and graduate students. The report recommends strengthened State government planning for graduate education, including a concern for unique resources, student accessibility, response to employment needs, and the development of new "and imaginative" programs of graduate education.

State planning should develop clear statements of goals and objectives for graduate education by the institutions of the State, and effective qualitative and quantitative criteria for the elimination of some programs and the approval of others. The report acknowledges the difficulty in developing and applying such criteria, but does not offer any particular suggestions about how to approach the task or about appropriate kinds of criteria to employ. Other recommendations deal with graduate programs, comparable cost data, the assessment of benefits, and regional planning.

The Education Commission of the States task force report is a reaffirmation of faith in graduate education, and useful in counteracting a current public inclination to belittle the importance of graduate education in general. Moreover, the report presents a realistic outline of institutional, State, and Federal roles in planning for graduate education. But the report does little to advance planning and decisionmaking about the critical issues of graduate education: what kinds of graduate programs should a State support, what should be the desirable enrollment size and resource requirements for graduate instruction, what should be the geographical distribution of graduate programs, and what institutions should be assigned the mission of graduate education at the Ph.D. level.

12:1.4/75-3

Vocational Education: Alternatives for New Federal Legislation, Pamela H. Christoffel, 57 pp., Policy Study from the Washington Office of the College Entrance Examination Board (College Entrance Examination Board, New York).

This study, prepared in advance of the 1976 amendments to and extension of the Vocational Education Act of 1963, clearly delineates the issues of Federal and State government planning in an important program area of postsecondary education: career or technical education beyond the secondary school level. The original 1963 law applied to both secondary vocational education and postsecondary technical education. At the same time, State planning and management of the program was restricted to a sole State agency, which in most instances was a State board of vocational education or a State department of education having authority over secondary education but not over public higher education.

In 1976 higher education associations made an effort to change the vocational education law at the Federal Government level in order to increase the proportion of funds allotted to postsecondary technical education, to eliminate the sole State agency requirement, and to permit delivery of technical education programs by a range of public higher education organizations including community colleges, technical institutes, and State universities. Although these proposed modifications were largely ignored in the final 1976 law, some concessions were made involving increased higher education involvement in State planning for so-called vocational education, including technical education.

Although this study is addressed to specific issues of 1976 legislation, the problem areas enumerated continue to be troublesome and continue to perplex both Federal and State government planning for secondary vocational education and postsecondary technical education. Governmental planning must still cope with the program problems and the problems of institutional mission presented in this study and generally not resolved by the 1976 legislation.

12:1.4/74

Adapting Universities to a Technological Society, Eric Ashby, 158 pp. (Jossey-Bass, San Francisco).

In this essay a distinguished British educator presents the thesis that universities have not adapted themselves sufficiently or adequately to the environment within which they perform their services. On one hand, he characterizes universities as congregations of faculty members committed to the pursuit of their own intellectual interests free from external social or political pressure. On the other hand, society is confronted with urgent problems: poverty, unemployment, inadequate health care, environmental pollution, and national defense.

The author argues that conflict between university and society was not preordained. He believes that faculty members can pursue both intellectual and practical objectives without subverting the tradition and the commitment of the university. Moreover, he is convinced that modern technology represents the hope, not the curse, for the future of a progressive society. He is even inclined to believe that technology can improve the learning process.

It is apparent throughout the discussion that Eric Ashby is drawing heavily upon his own experience as a scientist and as an administrator within a university of the United Kingdom. His observations about science, technology, faculty members, students, and academic administration present a cogent description of conflict in purpose as this situation emerged in his country after 1945. Yet the comments are not without general relevance to universities which have inherited or adapted the intellectual tradition of Western society.

12:1.4/73-1

Scholarship for Society. Report of a Panel sponsored by the Graduate Record Examination Board of the Council of Graduate Schools in the United States, 60 pp. (Educational Testing Service, Princeton, N.J.).

This report evaluates the urgency of a need to change the basic characteristics of American graduate schools. The report begins with the assertion that the demands made on graduate schools have been contradictory in nature. On the one hand, there have been complaints that graduate schools have been inflexible in their standards, unimaginative in developing optional styles of study, and remote from the realities of social expectation. On the other hand, there were complaints that graduate education lacks adequate standards of performance, was expanding into too many fields and too many institutions, and was too oriented toward practical needs.

The report urges a "reasoned response" to these various criticisms. After presenting an historical perspective on graduate education expansion and retrenchment, the report pleads for a "sound philosophy of change." The recommendations urge a clarification of mission among graduate schools, increased recruitment of women and minority students, greater attention to nonacademic experience as a resource for learning and teaching, a broader definition of faculty qualifications to participate in graduate education, enlarged use of new instructional media, periodic review of the state of knowledge in each discipline, and increased attention to planning to meet environmental change.

Although this report appears to be addressed primarily to institutional planners and largely ignores State and Federal planning in relation to graduate instruction and research, the report makes one particularly important contribution. It acknowledges that there might be differential missions in graduate education and recommends the creation of a commission "to develop alternative standards of evaluation for graduate institutions not totally oriented to the standards of research eminence . . ."

12:1.4/73-2

The University in an Urban Environment, Nicholas Abercrombie, Ian Cullen, Vida Godson, Sandra Major, and Kelsey Timson, 246 pp. (Sage Publications, Beverly Hills, Calif.).

This study undertaken by a British research group is essentially an analysis of policy decisions regarding the desirable location of the "new universities" in England and Wales. The study argues that location is essentially the consequence of a certain ideology about the nature of a university. Although the new universities were mostly located adjacent to large urban areas, sub-urban sites were selected to emphasize liberal rather than vocational education, an elitist rather than a democratic structure, internal cohesion rather than external linkages, and total rather than partial involvement within the academic community.

Drawing upon data obtained at one college located in London's West End, the authors point out the college was heavily committed to teaching rather than to research, that students and faculty had limited interaction with each other and one another, and that involvement with the urban environment was individual rather than institutional. Unfortunately, extensive comparative data were not available.

What emerges from the study seems to be an awareness that an urban location in and of itself does not necessarily mean strong linkages between a university and its urban environment. Students in an urban university may look to the urban rather than the academic community for their social, cultural, and personal relationships. But this circumstance does not mean close student involvement in an educational-urban linkage. Faculty members may cultivate intellectual and cultural values which only partially reflect both the resources and the needs of the urban community.

This research study suggested that the location of a university affected performance to some extent but not critically. If a university was to be of as well as in an urban environment, the required linkages depended upon more than location alone.

12:1.4/72-1

Reform in Graduate Education, Lewis B. Mayhew, 182 pp. (Southern Regional Education Board, Atlanta, Ga.).

In this special study for a regional planning and advisory agency, the author reviews the essential problem areas for planners of graduate education. Mayhew first summarizes the defense and the criticism of graduate education. The basic conflict involves the essential purpose of graduate education: are the graduate departments in the arts and sciences essentially professional schools producing scholars to staff other graduate departments and to produce the research needed to advance the knowledge of a discipline? Should graduate departments produce college teachers?

Should graduate departments in the arts and sciences produce persons qualified to apply knowledge to practical problems? Can one graduate department prepare individuals for all three roles, or must the differentiated purposes be assigned as differentiated missions to different institutions? These are the troublesome questions facing Ph.D.-level graduate education in the arts and sciences. Like others, Mayhew had no ready answers.

The author provides a useful summary of various studies and observations about graduate education. The subjects included in the discussion are curriculum and instruction, structure and organization, preparation of college teachers, and various "unresolved" issues such as the foreign language requirement, financial aid, special admissions, and developmental assistance to students.

Although the study is primarily aimed at institutional planning rather than State or Federal Government planning, it identifies issues which Federal and State planners cannot avoid, especially as they consider institutional missions in graduate instruction and research performance.

12:1.4/72-2

Where Colleges Are and Who Attends, Effects of Accessibility on College Attendance, C. Arnold Anderson, Mary Jean Bowman and Vincent Tinto, A Report Prepared for the Carnegie Commission on Higher Education, 303 pp. (McGraw-Hill Book Co., New York).

Focusing on a single important issue, this study questions whether immediate geographic accessibility to a college increases the proportion of high school graduates who undertake postsecondary education. The authors begin with several givens: the local presence of a college encourages enrollment through lowered costs of attendance; standards of selectivity influence enrollment; and tuition costs affect enrollment. The authors add to this list the factor of communication: the local perception of the opportunity for higher education affects the way that prospective students view it. Making use of data from a California study and a Wisconsin study, the authors then tried to measure the impact of location upon the individual propensity to enroll in higher education. In general, college enrollment does appear to increase when an institution is located in a community; the increase is notable particularly when a 2-year public college or a 4-year State college is present in the area.

The authors stress a number of determinants for college enrollment. The ability of high school graduates and the status of their parents had a strong influence upon enrollment. The information supplied by the institution about itself appeared to have limited influence upon enrollment. Students of modest academic ability and of low family income were the ones most likely to be affected by the availability of a college, especially a public college, in the immediate geographical area. At the time of the study, boys and girls responded differently to accessibility of higher education opportunity.

While the data drawn upon are not recent, the variables of sex, ability, and socioeconomic status are of enduring importance, and the penetrating analysis should prove useful to policymakers ready to challenge established opinions about the accessibility of all types of institutions and increased attendance.

Comprehensive data from California, Illinois, North Carolina, Massachusetts, and Wisconsin illustrate what should be collected if other States wish to re-examine the primary question in a current setting.

12:1.4/70

The Open-Door Colleges, Policies for Community Colleges, Special Report and Recommendations by the Carnegie Commission on Higher Education, 74 pp. (McGraw-Hill Book Co., New York).

This third report by the Carnegie Commission sets forth observations and proposals concerning 2-year community colleges. The report asserts the "great worth" of the community college to American society and urges that such colleges be within commuting distance of all persons except those living in very sparsely populated areas. The Commission favors the model of a comprehensive community college offering general education, academic, and technical education programs. It declares that community colleges should be satisfied to remain 2-year institutions and should not become 4-year or graduate institutions.

Coordination between 2- and 4-year institutions was recognized as a major problem and full transfer rights for qualified graduates of the 2-year college were advocated. Technical education was acknowledged as a program to be given full support and accepted status within the community college.

Open access was advocated as the basis for admission. Tuition charges were to be nonexistent or quite modest. Occupational and personal guidance were to be major functions of the college. The college was to enrich the cultural life of the community. The optimum enrollment size was declared to be between 2,500 and 5,000 students. The college was to be linked to its community through a local governing board or a local advisory board. And financial support was to be provided by local, State, and Federal governments.

For the most part, the Carnegie Commission statement reflects a planning consensus about the mission and program of the community college. The recommendations of the Commission were largely in the process of implementation by State and local governments when the report was issued; only the Federal Government has remained apart from community college development.

12:1.4/69-1

Graduate Education: Parameters for Public Policy, National Science Board, National Science Foundation, 168 pp. (U.S. Government Printing Office, Washington, D.C.).

This descriptive and factual account of the development and characteristics of graduate education in the United States as of 1968 provides the background for the National Science Board's recommendations for public policy published the same year. The account begins with a brief historical sketch, data about enrollment, and graduate enrollment projections up to 1980. Another section discusses the types of institutions offering graduate programs, with particular attention to graduate education in science and engineering. The geographical distribution of graduate enrollments is noted, and the concept of "deficits" in graduate enrollments by States is formulated. Summary data are included about graduate faculties and postdoctoral students.

The second section of the report discusses the issue of quality in graduate programs, and mentions such factors as faculty qualifications, physical plant resources, library resources, enrollment size, institutional funding, and student selectivity. Especially interesting are the discussions of the cost of quality and the geographical distribution of quality.

A third section deals with financial perspectives related to graduate education, and especially the relationship of financial patterns to Federal Government funding. The vital interconnection in graduate education between instruction and research is traced in an historical sketch. A projection of the costs of graduate education to 1982 is included. Acknowledging that graduate education was the most expensive form of education per student, the report declares that the only major source of increased income for graduate education appears to be the Federal Government.

The report concludes with a simple enumeration of policy issues to be considered: (1) the capacity of the educational system to meet graduate education needs in the next 10 years; (2) the achievement and maintenance of quality in graduate education; (3) the geographical deployment of graduate capacity to provide maximum benefit to society; and (4) the role of the Federal Government in relation to graduate education.

12:1.4/69-2

Toward a Public Policy for Graduate Education in the Sciences, National Science Board, National Science Foundation, 63 pp. (U.S. Government Printing Office, Washington, D.C.).

This report, prepared by the National Science Board of the National Science Foundation, is a landmark document in Federal Government planning for higher education. Noting that American science and engineering had achieved a position of great strength, and that graduate education was the most rapidly expanding element of higher education, the board lamented that institutions of graduate education had developed without the guidance and focus of an explicit national policy directed to their needs and opportunities. The board urged universities to undertake graduate programs only when they had strong academic departments and when adequate resources for graduate education were assured.

The board recommended that State and regional planning should ensure that every metropolitan area with a population in excess of 500,000 have graduate education of high quality and of sufficient capacity to contribute fully to social, economic, and cultural development. The board saw the Federal Government's role as one of supplementing, not replacing, non-federal funding. The board proposed six types of grant programs for the Federal Government in order to achieve a significant share of the total support of graduate education: (1) institutional sustaining grants, (2) departmental sustaining grants, (3) developmental grants, (4) graduate facilities grants, (5) graduate fellowships, and (6) research project grants. The last five kinds of grants were to be based upon national competition, and the first grant was to be based upon a formula which includes a quality factor.

Although the report came at a time when graduate education was about to undergo considerable review rather than further expansion, it sets forth important ideas that were to influence Federal and State government planning involving the research mission of higher education institutions.

See also: 7:1.0/70 Free Access To Higher Education, Warren W. Willingham. 240 pp. (College Entrance Examination Board, New York).

20:1.1/74 Commuting Versus Resident Students, Arthur W. Chickering. 150 pp. (Jossey-Bass, San Francisco).

2.0 PUBLIC INTEREST

2.1 Social

12:2.1/75-1

College Responses to Community Demands, Arthur M. Cohen and Associates. 190 pp. (Jossey-Bass, San Francisco).

A professor of higher education at the University of California, Los

Angeles, and Director of the Educational Resources Information Center Clearinghouse for Junior Colleges, the principal author of this study tries to determine the extent and scope of the developmental mission of community colleges. In an earlier study the author had discussed the tensions arising in community colleges between the promise of equal opportunity and the certifying function inherent in an educational process that recognized differential abilities and achievement. This study continues and advances the earlier analysis.

The author and his associates divide the discussion into three parts: the social forces intruding upon the community college mission, the attempts of community colleges to respond, and the perplexities confronting faculty endeavors. The study asserts that the control of community colleges was gravitating toward State capitals, in part because of increased State funding. A corollary of increased funding was an enlarged State role in prescribing the mission and the programs of community colleges. Increasingly, community colleges acquired a community service mission demanded by local groups without any corresponding provision of funding with which to perform such a mission. Meanwhile faculty attitudes had been fashioned in large part by education and experience acquired before the community service mission emerged. As a result faculty members saw their role as instructional and as standard-enforcing rather than as community development. Thus job satisfaction had become a major concern in faculty expectations.

While the author asserts that community colleges had become a permanent and useful adjunct to universities and had acquired an assured role in State plans for postsecondary education, he argues that community college spokesmen had not articulated the role of the college and had not confronted the contradictions in public expectation of program performance.

12:2.1/75-2

Managing Academic Change, S. V. Martorana and Eileen Kuhns, 218 pp. (Jossey-Bass, San Francisco).

The authors of this study set for themselves a challenging task: to construct a theory of the forces that interact to produce change in accustomed modes of behavior within colleges and universities. If the result is somewhat less impressive than the objective, the consequence was not because they did not try.

The demand for change in higher education is accepted as self-evident. The forces behind change are rising social expectations, public disenchantment with higher education, pressure for accountability, competition among institutions for students and dollars, concern for affective-learning values, student insistence upon career education, and the prospective decline of traditional-age students. The authors then identify four particular signs of change: the creation of new campus institutions (four are mentioned in particular), the development of non-campus opportunities, the establishment of satellite campuses, and internal program reform (calendar change, inter-institutional cooperation, adoption of a humanistic management philosophy).

From their illustrative data, the authors perceive six "major currents of change": new social objectives on the part of colleges and universities, a new focus on teaching and learning, a separation of teaching and learning from research and public service, increased attention to experiential learning, internal organizational flexibility, and a "drift toward systemization."

It is when the authors turn their attention to a strategy of change for academic leaders that one begins to have reservations about the discussion. The authors offer on the one hand advice about systematic experimentation, improved communication, and the development of legitimacy; while on the other hand, mention such manipulative practices as creating a social demand for new services, organizing power blocs, and presenting change as evolutionary rather than revolutionary. A suggestive matrix of interactive forces affecting innovation provides a common sense outline but no theory. Social change represents a high political art that successfully defies reduction to a science.

12:2.1/75-3

Planning the Development of Universities, Victor G. Onuskin, ed., Vol. IV, 439 pp. (Unesco Press, Paris).

This fourth volume in a series of publications presents five case studies about university planning in five different countries: the USSR, the German Democratic Republic, the United States, Australia, and Belgium. Necessarily, the contrast is substantial. In the USSR and the German Democratic Republic higher educational planning is part of a national economic plan. In the other three countries higher educational planning occurs in the context of some degree of social pluralism and liberal democracy.

The author of the USSR study insists that university planning cannot "produce" talent but only develop it; and that university planning cannot determine the timing of scientific discoveries but only encourage it. The Soviet system seeks to plan those events, processes, and objectives within the university endeavor which are amenable to quantitative appraisal and evaluation. This planning process, he says, is based upon lessons of the past, the social purpose of higher education, the present state of learning, and methods for calculating the national demand for experts and scientists in industry, teaching, and culture. Although brief, the discussions of enrollment planning and admission, of job placement, of faculty education and development, and of evaluating performance provide substantial information about higher education in the USSR.

The case study from the German Democratic Republic focuses upon Humboldt University (the former University of Berlin). Although the presentation is largely doctrinaire in tone, some sense is offered of the complicated interaction between Ministry, Rector, central councils, faculty, and students. The reality rather than the prescription would be fascinating to know.

The lengthy account of development at the State University of New York at Buffalo is three stories in one: the transition of a private university to a State university, the travail of a particular campus as part of a multi-campus system, and the complexities of planning and budgeting for a university with internal vested interests to appease and external constituencies to satisfy. One suspects that students are instructed and faculty members teach in spite of rather than because of the system.

The Australian case study reports the development of the Western Australian Institute of Technology, a college of advanced education. The planning process is comprehensive and sophisticated. The study of the Catholic University of Louvain deals with the development and use of an extensive management information system of substantial complexity, involving activities files, an analytical framework, and various sub-systems of information flow. We are simply told that all the information is used by the decisionmakers of the university, whoever these persons may be.

12:2.1/71-1

Institutions in Transition, A Profile of Change in Higher Education. Harold L. Hodgkinson, Study for the Carnegie Commission on Higher Education, 295 pp. (McGraw-Hill Book Co., New York).

This study involved an effort to identify and to analyze change in higher education. Based upon data from the annual higher education directories and a questionnaire sent to some 1,200 institution presidents, the author tries to indicate the primary changes occurring in the 1950's and 1960's. The study also includes five case studies of particular institutions.

There were several major conclusions of the study as of 1970, all based upon statistical analysis. The students enrolled in colleges and universities had become more diverse in terms of social and economic background, and student influence upon governance issues had increased. At larger institutions faculty members taught fewer hours, were more interested in research than in teaching, spoke out on issues of national policy, and tended to be less loyal to the institution. The huge increase in enrollments during the 1960's had been accommodated largely by the public sector. The greatest increase in institutions awarding the Ph.D. degree occurred among public institutions. Most higher education by 1970 had become coeducational.

The presidents agreed upon several observations: there had been a substantial change in faculty and student power, major changes in academic programs, and major changes in student body characteristics. Presidents also noted a considerable increase in the number of faculty members whose sole assignment was to research.

The author concludes that size was an important factor in describing institutional characteristics, that regional considerations and governance arrangements seemed to make little difference in determining institutional change, and that institutional diversity was decreasing rather than increasing. The higher education model was the prestigious research university.

No doubt these findings as of 1970 had substantial validity. A similar profile in 1980 might indicate considerable discontinuity from the trends observed from 1950 to 1970.

12:2.1/71-2

The Politics of Disorder. Theodore J. Lowi. 193 pp. (Basic Books, New York).

Within the general context of a discussion of the contemporary disorder and failure of social institutions, the author presents a notable chapter on higher education, with the arresting subtitle of "the roots of constructive alienation." The author insists that the students of the 1960's were the first group in the university to perceive the collective institutionalized commitments to society. The consequence was an attempt to politicize the university.

The author attempts to classify educational systems and class interests in a matrix setting forth educational norms, educational ethics, and social interests. His observations are both innovative and worthy of extended discussion. Educational norms are identified as classic education, liberal arts education, disciplinary education, practical education, and technocratic education. The educational ethic corresponding to each of these norms is expressed as the consumer ethic (knowledge for its own sake), a second consumer ethic (the Renaissance man), the producer ethic (the major or specialist), the training ethic, and the problem-solving ethic. The social interest represented by each of these norms and ethics are shown as: aristocracy, old bourgeoisie, the new middle classes, the working classes, and regimes.

The prescription of how universities may appropriately address themselves to social interests will appeal to some and will repel others. But the linkage of higher education norms with social interests constituted a major contribution to thought, a concept requiring much more attention than it usually receives.

Obviously higher education serves the society which nurtures it. Higher education can help to improve that society, but a radical change in social tradition, social structure, and social process will precede a reconstruction of higher education rather than result from higher education itself.

2.2 Economic

For information relating to this section see Topic 5: Economics.

2.3 Political

12:2.3/75

The Political Terrain of American Postsecondary Education, Clyde E. Blocker, Louis W. Bender, and S. V. Martorana, 223 pp. (Nova University, Fort Lauderdale, Fla.).

The separation of higher education, public and private, from the political system as such is one of the traditions of American society. The separation rests largely upon the understanding that the contributions of higher education to society are essentially apolitical. Moreover, the search for knowledge and the dissemination of knowledge are to be protected from external political manipulation.

The authors of this study argue that many reasons encouraged increased State and Federal government concern with higher education. These reasons included the Federal drive for research and manpower training, the egalitarian move to broaden access to higher education, the changing roles and missions of institutions as they responded to changing social circumstances, public concern with student activism in the 1960's, and institutional demands for increased financial support.

The conflicts between governments and institutions are identified as centering on issues of autonomy, academic freedom and tenure, management of resources vs. essential processes of education, and institutional diversity.

The discussion of the political environment of higher education provided in this study is at best somewhat sketchy. The authors attempt to identify the elites in society affecting higher education — the power brokers, the sources of political power, and political tactics. The information is elementary, however, if not at times misleading. A consideration of internal institutional politics acknowledges a reality without demonstrating its relevance to external political events. Attention is given to community-level politics, State-level politics, Federal-level politics, and nongovernmental organizations.

This study explores an important subject but lacks an adequate conceptual framework and the factual base from which to develop a general understanding of the relationship between higher education performance and political action.

3.0 NEED FOR INSTITUTIONS

See also: Topic 11: Independent (Private) Higher Education for further reference on the subject of need for institutions.

12:3.0/75

Science Development, University Development, and the Federal Government, Report by the National Board on Graduate Education, 48 pp. (National Research Council, Washington, D.C.).

Science Development: An Evaluation Study, David E. Drew, 182 pp. (National Research Council, Washington, D.C.).

These two documents, one a policy statement and the other a staff technical study, deserve careful attention for a single reason. The University Science Development Program conducted by the National Science Foundation from 1965 to 1971, was a Federal Government excursion into *institution* building. The Federal Government research programs as of the early 1960's were criticized on several grounds: they provided support to a handful of universities, the support was concentrated upon two geographical areas (New England and California), and both economic development and the achievement of quality graduate education were being hampered in other parts of the nation by the existing pattern of Federal Government research support. The government response to these criticisms was that research support went to persons in those universities in which high quality research was the basic institutional mission.

The University Science Development Program was an NSF endeavor to assist additional universities to achieve distinction in graduate education. The program was based upon the proposition that below the top 20 leading research universities there were another 20 or so research universities on the verge of quality achievement. The NSF attempted to assist these other universities in their efforts and aspirations for research quality. The program was careful not to identify the top 20 research universities.

The 31 universities receiving development grants at that time were obviously not then considered to be in the top 20.

The study found that the additional NSF grants did produce positive changes in the quality of graduate education. The study also found that the institutions with careful internal planning and with additional external support tended to maintain the gains made possible by the Federal grants. The program did advance the geographical dispersion of leading research universities. The report and study deserve attention also because of their contribution to evaluative procedure.

12:3.0/71

New Students and New Places, Policies for the Future Growth and Development of American Higher Education. A Report and Recommendations by the Carnegie Commission on Higher Education, 158 pp. (McGraw-Hill Book Co., New York).

This report by the Carnegie Commission presents enrollment projections for American higher education to the year 2000, and then prescribes additional institutions needed to meet these enrollment projections.

On the basis of current enrollment trends, the Commission foresaw a total enrollment of 13.5 million students in 1980 (compared with 8.5 million students in 1970), 13.3 million students in 1990, and 17.4 million students in 2000. On the basis of so-called "prospective trends" the Commission projected enrollments of 12.5 million students in 1980, 12.3 million students in 1990, and 16 million students in 2000.

To accommodate this further enrollment growth after 1970, the Commission declared that there was a deficit in only two types of institutions: community colleges and comprehensive colleges located in metropolitan areas, especially those areas with a population over 500,000 persons. The inner cities were not adequately served by existing institutions, according to the report. The Commission suggested the need for from 175 to 235 additional community colleges and from 80 to 105 comprehensive colleges. The Commission categorically asserted: "We find no need whatsoever in the foreseeable future for any more research-type universities granting the Ph.D."

To some extent the Commission's recommendations for new institutions were based upon its definition of ideal size for any particular campus. For community colleges the Commission proposed a minimum size of 2,000 students and a maximum size of 5,000; for comprehensive colleges it advocated a minimum of 5,000 students and a maximum of 10,000; for universities the desirable range was from 5,000 to 20,000 students. The Commission pointed out that already the maximum desirable size was exceeded by 23 public universities, 12 public comprehensive colleges, and 7 public liberal arts colleges.

There is a dearth of research in this area of community, regional and urban colleges. A work that looks promising but is actually of little substance is *Lifelong Learners – A New Clientele for Higher Education*, Dyckman W. Vermilye, ed. (Jossey-Bass, San Francisco). The theme of the various essays is that colleges and universities in the 1970's and 1980's can perform a new mission, which is true; yet as a guide to program planning, the volume is generally inadequate.

12:3.0/69

The Invisible University: Postdoctoral Education in the United States, Report of a study conducted under the auspices of the National Research Council (National Academy of Sciences, Washington, D.C.).

The "invisible university" of this study is the university serving as host to postdoctoral fellows. This study is the only one that provides historical and analytical data about the development of postdoctoral study as part of the educational mission of research universities, and as part of the preparation of scholars for the practice of scholarship.

The postdoctoral fellow is usually a young Ph.D. recipient who seeks further research experience under a mentor before beginning the independent practice of his or her scholarly discipline. The host university is usually a leading research university. The mentor is usually a university professor distinguished for research accomplishment. There are exceptions to these findings – in the humanities the fellow may be an older scholar – but the generalizations indicate predominant characteristics.

This study insists that the postdoctoral appointee should be viewed as a scholar "in development" rather than as a means to other ends, such as staff for a specially funded research project. The study declares that few universities, public or private, have adequate space or facilities for postdoctoral fellows. Yet funding agencies, including State budget offices, are urged to recognize the importance of the postdoctoral program to the university in which research is a major activity.

This study, which appeared just as the major period of postwar Federal research support was beginning to slow down, addressed a little-recognized part of a leading research university's mission. The mission still remains invisible as of 1978. It is plain that postdoctoral fellows will be hosted to the extent that there are specialized research funds available, and to the extent that mentors continue to enjoy having such fellows around them. The university heavily involved in research will be the university heavily involved in postdoctoral education.

4.0 PROGRAM REVIEW

12:4.0/77-1

"Program Review by Statewide Higher Education Agencies," Robert J. Barak, in **Increasing the Public Accountability of Higher Education**, 99 pp. (Jossey-Bass, San Francisco).

Statewide boards of higher education may use various sources of information in reviewing institutional programs. There may be self-review, peer review, or external review. The purpose in State agency review is to evaluate accountability and the efficient use of State resources by an educational institution in relation to other institutions. In order to make such a review the agency must measure income and outcome based on need, cost, productivity, and quality.

The author uses the comprehensive development plan of 1969 in Florida as a case study in establishing criteria for the review of instructional programs. The Florida plan involved a 5-year moratorium for Ph.D. programs, and a formal procedure for identifying and reviewing similar programs offered by the nine State universities. No new degree program could be planned by a university without prior approval, and annual analysis of degree productivity was introduced for all degree programs. If the number of degrees falls below a specified minimum, the program is placed on probation. The minima are 6 degrees in a doctoral program, 9 to 15 degrees in a master's program, and 15 to 30 degrees in a baccalaureate program. If the minima are not reached within three years, the program is studied in depth to determine whether it is needed.

This procedure encountered considerable faculty criticism and a modified process making more extensive use of outside consultants was introduced.

The author also reviews the procedures introduced in New York State to review doctoral degree programs.

12:4.0/77-2

State-Level Academic Program Reviews in Higher Education, Robert J. Barak and Robert O. Berdahl (Education Commission of the States, Denver, Colo.).

This study of program review procedures employed by State boards of higher education found that the process had become more comprehensive and sophisticated by the first half of the 1970's. The criteria for review involved a careful description of program content, a clear statement of program objectives, an analysis of program need, a projection of program costs and a plan for financing them, a review of accreditation requirements and expectations, and a statement of student financial aid intentions and availability. The process of program review has usually involved intra-institutional approvals, inter-institutional approvals, State staff review, and State board action.

The critical problem has become not the review of new programs but the review of existing programs. Here additional issues are involved. The number of programs offered necessitates some screening device, or some criteria about urgency and scheduling. The factors given predominant weight are quality, output, institutional priority, and cost. Here the review process generally consists of two phases: the determination of programs to be reviewed, and extensive analysis of program experience. This analysis begins at the institutional level but eventually involves inter-institutional review, the possible use of external consultants, and staff recommendation. Governing boards rather than State planning and coordinating boards must make the decision to reduce the scope of a program or to eliminate a program. There is always the possibility in program review, however, of intervention by State budget agencies, State chief executives, and the State legislature.

12:4.0/75-1

Report of the System Advisory Planning Task Force, Reducing the Scope of the University of Wisconsin System (University of Wisconsin, Madison, mimeographed).

In January 1975 the Governor of Wisconsin, in view of fiscal constraints on the State budget, asked the University of Wisconsin Board of Regents to examine ways in which they could change the educational system, and in particular to present recommendations involving the phasing out, trimming down, or consolidating of existing campuses and programs. Confronted with a very brief period in which to respond, the Board nonetheless organized and provided a thoughtful answer to the Governor's request.

The task force raised five critical issues of public policy: what access did the State wish to provide for higher education; what was the State commitment to quality as a central or first priority; should the system maintain quality by reducing access; should the State continue to provide multi-purpose universities in various regions of the State; and should the system maintain quality by reducing the number of programs. The university could provide its recommendations on these issues but it could not resolve them.

From various simulation studies the task force presented several conclusions. Substantial cost savings could be realized by closing institutions and terminating some programs, but only if enrollment throughout the system was reduced. The reduction of programs on a particular campus would increase the costs of instruction for the remaining students. The phasing out of an instructional program involves various interactions, and savings are realized only if the entire budget unit is eliminated. The task force further concluded that continuous process of program audit and review with attention to program quality, need, productivity, and cost was the best approach to eliminating low productivity programs. Cost savings could best be achieved by the management of class size and by the consolidation of small budget units rather than by the phase-out of programs. The closing of an entire campus would have substantial impact upon a community. The costs of a campus need to be identified as fixed costs, incremental costs, and variable costs.

The entire report provided a substantial and careful analysis calculated to discourage simplistic solutions to complex problems.

12:4.0/75-2

"Role of Statewide Boards in Program Review," Elizabeth H. Johnson, in *Learner-Centered Reform*, 37 pp. Current Issues in Higher Education 1975. Dyckman W. Vermilye, ed. (Jossey-Bass, San Francisco).

Embedded in a general discussion of the authority of statewide boards of higher education, this essay considers in particular the role of such boards in reviewing academic programs. The purposes of program review are (1) to conserve resources, (2) to assure quality programs, (3) to avoid unnecessary and unwise duplication and proliferation, and (4) to assess the need for a given program.

Program review involves the determination of three procedures: (1) the programs to be reviewed, (2) the criteria to be used in judging program desirability, and (3) the mechanism for review. Regarding criteria to judge the program, the author notes that statements of institutional mission usually provide little guidance about appropriate academic programs. He further observes that program termination conserves resources only if the number of faculty is reduced.

Administrators and faculty members perceive program review as an infringement of traditional autonomy. Yet institutional officers and faculty members find it difficult to make decisions about program elimination, and lack the statewide perspective to do so.

12:4.0/73

Meeting the Needs of Doctoral Education. A Policy Statement of the Regents of the University of the State of New York, 27 pp. (State Education Department, Albany, New York).

Meeting the Needs of Doctoral Education In New York. Report of the Regents Commission on Doctoral Education, 67 pp. (State Education Department, Albany, New York).

This policy statement by the New York Board of Regents, and the Regents Commission report on which the statement was based, constitute a program of review for doctoral education by the most powerful State government education board in the United States. The objective was to establish standards for evaluating doctoral programs in both public and private institutions of higher education.

Following a review of the data about doctoral degree programs in New York, the Board of Regents statement proceeds to endorse the recommendations of its study and to declare its intention to implement those recommendations immediately. All doctoral programs, both public and private, were to be considered a statewide resource for graduate education. All doctoral programs would be expected to meet standards of high quality and demonstrated need, and all qualified New York students should have equal access to doctoral education. The board declared its intention to undertake a review and evaluation of doctoral programs on a subject-by-subject basis and on a statewide basis. Resources for graduate education would then support those programs meeting standards of high quality and need. The Regents identified 17 major subject areas for review: 13 in the arts and sciences, plus education, engineering, business and management, and area studies.

The Regents Commission proposed that evaluation committees employ both objective and judgmental criteria. Among the factors mentioned were quality of students, scholarly achievement of faculty, quality of library and laboratory facilities, financial support, and caliber of dissertations. Need was defined as including demand for educated manpower, concern with "societal problems," the transmission of knowledge in the "most esoteric fields," and new forms or types of doctoral programs. It was further proposed that need be determined on a regional, statewide, and national basis.

13

Libraries

Peter Hiatt
assisted by Susan Jean Barnes

* * *

The library topic deals with planning academic libraries at the multi-institutional (State), regional and national levels. Only works which deal directly with planning beyond the individual institutional level are cited; and only those dealing specifically with academic libraries. Academic libraries are defined to include all libraries and information centers controlled by or related to institutions of higher education. The librarian should keep in mind that the literature in other topics in this bibliography provide essential background information—often highly relevant to library planning.

The bibliography is presented in four parts in order of descending practical or immediate value to the planner: Multi-Library Planning; Background, Trends and Developments; Studies for Perspective; Regional Library Studies; and Support and Data Sources. The first subtopic includes volumes presenting academic library planning theory and practice and it is recommended that these works be readily handy to the planner. The other two subtopics provide background and perspective to the planning process—important in the long run to planning excellence, but of less immediate value.

Effective library planning beyond the institutional level requires extensive communication among individuals. Practitioners engaged in library planning at the State, regional and national levels will find the authors cited in the bibliography a list of key contacts; colleagues in academia and leaders in various library associations complete the list. Of special importance in this regard are the following associations: The Association of Research Libraries (1527 New Hampshire Ave., NW, Washington, D.C., 20036); the American Library Association's Association of College and Research Libraries (50 East Huron St., Chicago, Illinois, 60611); the American Society for Informational Science, (1155 16th Street, NW, Washington, D.C., 20036); and the Council on Library Resources (One Dupont Circle, Suite 620, Washington, D.C., 20036).

The world of academic library planning is not well organized. As reflected in the literature, library planning at the State, regional and national level has been confused indeed. Various groups, agencies, and associations have made contributions to multi-institutional library planning over the years—one easily identifies the Association of College and Research Libraries, the Council on Library Resources and a variety of offices in the Department of Health, Education, and Welfare. But until the establishment by Executive Order in September 1966 of the National Advisory Commission on Libraries these various groups were poorly situated to provide any systematic, coordinated planning for libraries at the national level.

From its inception, the National Advisory Commission was concerned with all types of libraries—academic, public, school, and special—and information centers. The Commission supported studies, surveys and hearings focused on developing national policy consistent with its mission to provide "the American people with library and informational services adequate to their needs, and that the Federal Government, in collaboration with State and local governments and agencies, should exercise leadership assuring the provision of such services." (From the National Advisory Commission on Libraries: Summaries of Objectives and Recommendations.) Several of the Commission's reports deal directly with academic libraries, and of these a few have important practical applications to the planner.

In July 1970, the National Commission on Libraries and

Information was created by an act of Congress. The Commission immediately launched a series of studies and reports to develop recommendations for a national program for library service culminating in a report titled: *Toward a National Program for Library and Information Services: Goals for Action (1975)*. Again, some of these base reports furnish practical tools for the academic library planner concerned with national level planning.

Most of the useful materials for academic library planning at the national level result directly from the work of the National Commission on Libraries and Information Science. At the regional level, the library administrator will find both less quantity and quality. However, available works are more practical, more immediate and tend to be more translatable into action. The bulk of regional library planning is concerned with localized studies affecting all types of libraries. The academic librarian should be familiar with these local surveys, studies and regional plans. In this bibliography only a few examples were chosen as illustrative of this type of work. This has also been done with State level studies. Again, the planner/academic librarian needs to be thoroughly familiar with, indeed involved in, library planning at the State level, but these studies are highly specialized and only a few are cited here.

The place to start planning academic libraries, at any level, is with assessments of user needs. Little literature deals creatively or usefully with this aspect. Even the *National Inventory of Library Needs, 1975* (Ladd) presents institutional needs, not client needs. This gap is the most serious one identified in the literature search and through conversation with academic library leaders. Further work in this area may be encouraged by the Cuadra-Bates volume, *Library and Information Service Needs of the Nation*, cited in the bibliography.

TOPIC ORGANIZATION

13: Libraries
- 1.0 Multi-Library Planning
- 2.0 Background, Trends and Developments
- 3.0 Studies for Perspective
- 4.0 Regional Library Studies
- 5.0 Support and Data Sources
  - 5.1 National
  - 5.2 State

1.0 MULTI-LIBRARY PLANNING

13:1.0/77-1

"Academic Libraries: Into the Eighties." Arthur Honke, Association of College and Research Libraries, (ACRL, Chicago, Ill.) 10 pp. ED 121 347 IR 003 355.

A seminal document focusing on the specifics of inter-library cooperation in the 1980's, this document was designed as a working paper for the Association of College and Research Libraries Ad Hoc Committee to revise the 1959 "Standards for College Libraries."

As the author notes, trends which will affect institutions of higher learning and their libraries in 20 years are discernible now. Though the conventional structure of education will be basically the same, more flexible and individual patterns–the open university, extended degrees, universities without walls, and expedited programs–will continue to develop. Enrollments will follow population patterns, probably increasing somewhat to 1980, then stabilizing or dropping off. This will exacerbate the already troublesome financial problems of colleges and universities he says, inevitably increasing the per-student cost of higher education. Thus the financial problems of academic libraries will be even greater, given the information explosion, inflation rates, the demand for expensive non-print materials, and the trend toward restricted library budgets. Some solution to the problem may be found in cooperative programs, networks, computer applications, increased use of microforms, centralized storage, regional media centers, interlibrary loans, and improved management.

The book goes on to say:

> Cooperation and sharing of resources among libraries has been a fundamental tenet of librarians, but only in exceptional instances have formal cooperative programs between libraries achieved what might be termed unqualified suc-

cess. The exigencies of income insufficient to meet the demands placed upon them are now likely to force libraries and their parent institutions to invest the kind of money, effort, and planning in cooperative programs that can make them effective. Networks based on computer and telecommunications are likely to be commonplace by the end of the next decade, and many of the area, state-wide, and multi-state consortia that have come into being over the past years will doubtless emerge from the next decade much stronger as rising costs of providing adequate service on a stand-alone basis meets the cost of providing an equal level of service through cooperative programs. Centralized storage, regional media centers, coordinated acquisitions programs, rapid communications and delivery service for interlibrary loan, are a few of the obvious kinds of activities that will receive more emphasis and realistic support in the near future than they have in the past.

Assignment of costs will shift to reflect more accurately the service which incurred the charge. For example, research libraries which are heavily drawn upon for interlibrary loans must be relieved of the cost of providing the service so that continued growth of their research collections is not jeopardized. When reciprocity of borrowing is not possible, some means of reimbursing the lending libraries will have to be found, either through charges to the user or his institution, or to public funds made available for the purpose. (pp. 7-8)

A bibliography lists key inter-library loan studies and related items for the period 1971-74.

13:1.0/77-2

Library Statistical Data Base Formats and Definitions and **Commentary to Library Statistical Data Base**, National Center for Higher Education Management Systems, 23 and 349 pp. (NCHEMS, Boulder, Colo.).

Designed for individual use, this is a basic manual for statistical gathering and measuring necessary to a sound approach toward interlibrary cooperation. Some attention is given to the "Cooperating Library" beyond the "normal interlibrary loan" activities, and Consortia, Networks and other cooperative endeavors.

The manual and commentary evaluates a library statistical data base for management information needs of public and academic libraries. The data "describes the environment, the overall resources, and the programmatic activities of the library. The environmental data of the library includes information which describes the external setting of the library, the internal organization of the library and the target group served by the library. The overall resources of the library include four major types of data: collection resource data, human resource data, financial data, and facility resource data. Finally the data concerning programmatic activities organized the library into major activity or functional areas. For each of these, a series of measure categories are used to describe and evaluate the activity of the library. These measures describe revenues/expenditures, personnel, facilities, activities, users, and outcomes/performance of each of the activity areas."

The book continues, "The framework of information and the data set described provide the library manager a more informed basis for 1) internal decision-making and planning, 2) comparison and communication, and 3) reporting to external agencies and organizations. As such, the data base as outlined and presented represents a first major effort to develop such a comprehensive system for academic and public libraries. Although changes and refinements will be dictated through the practical application of the data base, it provides an excellent beginning to a valuable management tool for the individual library and library manager."

13:1.0/77-3

Toward a National Library and Information Service Network: The Library Bibliographic Component, Library of Congress, Network Advisory Group, Preliminary edition edited by Henriette D. Avram and Lenore S. Maruyama, 66 pp. (Library of Congress, Washington, D.C.).

This report presents the national goals, assumptions, objectives, and functions of the National Library and Information Service Network, recommending higher priority for expansion of the Library of Congress national bibliographic service, and design of network configuration for local, multi-state, and national requirements. Descriptions of existing network activities in the nation are presented, including bibliographic utilities, multi-state service centers, resource libraries, information retrieval services, and communication carriers. Existing national services at the Library of Congress, such as the National Union Catalog (NUC), Conversion of Serials (CONSER), and onlines access to the MARC database, are also described.

13:1.0/75-1

New Dimensions for Academic Library Service, E. L. Josey, ed. 349 pp. (Scarecrow Press, Metuchen, N.J.).

This book presents a particularly useful look at the predictable futures of academic libraries. Academic librarians have become active participants in educational policy decision matters that have serious implications for college and university library development. This is a compilation of 25 essays which focuses on a variety of initiatives taken by librarians, information scientists, and educators, in response to new demands on and reduced funding for academic libraries, through new organizational patterns, new technologies, and cooperative library networks. Included:

Cohen, Nina T., "The 3R's System and the Academic Library Community." p. 239-49. This article presents a discussion of the historical development of New York State's 3R's program, and descriptions of typical programs. It offers suggestions for future directions for successful use of consortia, networks, and cooperatives.

Kilgour, Frederick G., "The Ohio College Library Center: A User-Oriented System." p. 250-55. This is a conceptual clarification and an analytical description of OCLC as a user-oriented system.

Miller, Ronald F. and Wax, David M., "NELINET, NASIC, and the Academic Library User." p. 256-67. The programs of the New England Library Information Network and the Northeast Academic Science Information Center are discussed. NELINET provides a range of services, while NASIC represents an attempt to apply the concept of brokering computer-based information services on a multi-state basis.

Davis, Hillis Dwight, "The Cooperative College Library Center, Inc.: An Historical Perspective." p. 268-287. The history and development of the Cooperative College Library Center in Atlanta, Georgia are given. It provides cooperative technical processing for 27 black academic libraries in the South, and was established to increase the purchasing power of members' dollars. The work concludes that OCLC offers the best solution to most library problems.

Hewitt, Vivian D., "Utilizing Public and Special Libraries to Serve Post-Secondary Education." p. 288-297. Because it is virtually impossible for academic libraries to serve all of the students engaged in a variety of nontraditional post-secondary educational programs, this piece concludes that public and special library programs have provided significant services to this sector.

Josey, E. L., "The Academic Library in the Year 2000." p. 307-326. This essay describes a futuristic academic library, current trends, and planning now being undertaken that may aid in determining some major alternative scenarios.

13:1.0/75-2

"Statistical Information as a Basis for Cooperative Planning." Mary Edna Anders. *Library Trends,* Vol. 24, No. 2, October, pp. 229-244.

One of the very few practical guides to statistical tools for national, regional, and State academic library planners, this chapter notes that statistical data is used in three phases of cooperative planning. The first is in preliminary explorations, where statistical measures provide objective descriptions of existing conditions, documenting a need and convincing people of the merits of change. Second, in the planning process, data helps participants identify the direction that projected activity should take, and formulate precise objectives and organizational details. Third, after the program is operational, data helps in evaluating its effectiveness and impact, pinpointing weaknesses, and ascertaining necessary modifications. Use of statistical measures by librarians in program planning appears to have occurred infrequently, and published material dealing with library planning mainly discusses nonstatistical approaches. Statistical data is utilized primarily in connection with finances. Library statistics are collected on a regular basis by several types of agencies and organizations, but unfortunately, series of library statistics are sometimes of limited value due to time lag in their appearance. In order to determine whether cooperation will expand the resources and increase the effectiveness of the services available to users, librarians need more than inventory measures. They need measures of current conditions.

Another practical guide is Westat, Inc.'s 1972 *A Study of the Characteristics, Costs and Magnitude of Interlibrary Loans in Academic Libraries*, Greenwood Press, Westport, Conn., 1972. Reports of the U.S. Department of Health, Education, and Welfare, Office of Education, *Library Statistics of Colleges and Universities—Institutional Data*; and *Library Statistics of Colleges and Universities—Analytic Report*, Government Printing Office, Washington, D.C., usually issued annually, present individual institutional data and summary or aggregate statistics for nearly all U.S. college and university libraries. Statistics reported include those relevant to the library collection, library staffing, regular staff salaries, hours of assistance and wages of hourly staff, and operating expenditures by function.

13:1.0/74-1

Library and Information Service Needs of the Nation, Proceedings of a Conference on the Needs of Occupational, Ethnic and Other Groups in the United States, Carlos A. Cuadra and Marcia J. Bates, 314 pp. (U.S. Government Printing Office, Washington, D.C.).

Any planning effort to improve or change academic library structure should start with a current and accurate assessment of client needs, library and information use habits, and careful consideration of future trends. This is especially true of cooperative planning at the State, regional and national level. The Cuadra-Bates volume, written as a support document for National Commission on Libraries and Information Science (NCLIS) planning, is the best example yet produced of thoughtful analysis of the ways academic (and other types) of library clients produce and use information. It is essential pre-planning reading, and is already assuming the stature of a classic.

The United States is faced with the challenge of definition and development of the means by which a new kind of wealth, that of information and knowledge resources, can be used most effectively and shared equitably. Although they are difficult to discover and express, it is necessary to develop greater understanding of information needs in order to determine services that should be provided, as well as planning of these services. Papers presented in this volume cover the user-needs areas of women, homemakers, and parents, the disadvantaged, the biomedical community, the aged, social service personnel, labor, children, the agricultural community, creative and performing artists, the geographically remote, the institutionalized, the economically and socially deprived, young adults and students, scientists and technologists, the business community, the mentally and physically handicapped, and the culturally isolated. Before moving into cooperative adventures, the academic library planner would do well to examine the needs of her/his constituents. This source is a state-of-the-art presentation for the academic library's clients and potential clients.

13:1.0/74-2

Library Planning and Decision-Making Systems, Morris Hamburg, Richard C. Clelland, Michael R. W. Bommer, Leonard E. Ramist, and Ronald M. Whitfield, 374 pp. (MIT Press, Cambridge, Mass.).

This key planning tool is the result of a research project which concentrated on design and development of statistical information systems that would provide quantitative models for effective management of university and large public libraries. Considerable effort was devoted to the development of frameworks to assist administrators in making planning decisions. Library objectives and overall performance measures are also examined, along with information systems for the support of library planning and decisionmaking, and library systems and State and national level planning.

Chapter 6, "Higher-Level Library Decision Making," notes that no library can afford to operate with complete independence anymore, but must make cooperative arrangements which can take an almost infinite variety of forms. The roles of the three major centers for library decision making and leadership within the Federal Government (the national libraries, the Congress, and the Office of Education) are summarized, and the role of the State library agency is examined, followed by speculations on future library trends.

13:1.0/74-3

"National Planning and Academic Libraries," John P. MacDonald, *Association of Research Libraries,* November, 21 pp. ED 104 444 IR 001 852.

This paper, which is the key document for multi-library planning of universities on the State, regional, and national level, was first presented at the General Council Meeting of the International Federation of Library Associations in 1974. The author reviews the efforts of university libraries in the United States "to develop and implement rational plans". He examines the activities of the Association of Research Libraries, originator of various plans for library cooperation including the Farmington Plan and the National Program for Acquisitions and Cataloging. These activities are almost entirely related to the largest university and research libraries in the United States. Another example of effective cooperation among university libraries he critiques is the Center for Research Libraries, a library for libraries from which 78 members borrow needed publications. He notes that recently, developments deriving from technological change have given rise to a number of important new agencies capable of rendering machine-based services to large numbers of libraries, such as the Ohio College Library Center. An effective national library system, he says, will require future planning and cooperation in the areas of development of resources, bibliographic control and access, physical access to resources and communication systems, and preservation of printed materials. Existing projects can provide the groundwork for a national system, but continued planning will be necessary.

John P. MacDonald reviews the main elements of a planning system: (1) the setting of policy goals, (2) developing programs and projects for moving toward the goals within a specified period of time, (3) designing policies for mobilizing resources (e.g. collections and services, manpower, funds, etc.) required for the programs and projects, (4) providing information about the progress made and the obstacles encountered in the execution of the programs and projects, (5) providing a mechanism for adopting policies designed to overcome obstacles and to adjust the plan to errors when they become apparent, if necessary by modifying the current plan, and (6) preparing for a subsequent plan. With that background, MacDonald critiques other models of cooperative planning arrangements at the multi-state level such as the PL-480 program of the Library of Congress, designed to identify and acquire sets of key, current publications from developing countries, and the Midwest Inter-Library Center.

MacDonald concludes that a good deal has already been accomplished in regional and national academic library cooperative activities, but that many complex problems remain, and that the need to make "academic libraries full partners in the effort to provide all the citizens of the United States with convenient access to library resources and information services" demands continued, rational response from academic library planners.

13:1.0/74-4

National Programs of Library and Information Services of NCLIS: Implication for College and Community College Libraries, Beverly P. Lynch, National Commission on Libraries and Information Science, (NCLIS, Washington, D.C.) December, 28 pp. ED 100 394 IR 001 496.

This is the key document to multi-library planning for college and community colleges which should be on hand for the academic library planner concerned with State, multi-state and national planning.

Beverly P. Lynch's paper is one of several developed to describe the relationship and involvement of different types of libraries with national library and information science programs of the National Commission on Libraries and Information Science (NCLIS). The report "projects the role and prospective benefits the college/community college library should have in relating its program to such a national program, projects the types of standards the college/community college library should be required to meet to join the national program, anticipates problems in developing this relationship, and suggests solutions".

Lynch bases her report on the rationale that since college and junior college libraries are imbedded in the organizational framework of the colleges they serve, the perspective of the colleges with regard to educational planning at the national level will bear directly on the library's role in the National Program for Library and Information Services. As educational costs rise and available monies decline, she says, college libraries will be asked to demonstrate that a national plan for sharing library resources and building information networks will be cost beneficial. The resources of many college libraries would be inadequate to meet the standards required for participation in a national program. Financial support would be needed to bring them up to standard. To meet the expectations of the college community from a nationwide library network, she concludes that the Federal Government must ensure reciprocity in the exchange of services.

Lynch summarized the impact of maior higher education programs on college/community college libraries including lifetime learning, nontraditional study, open learning models, educational technology, course exchanges, and the program objectives of NCLIS. Factual and explicit information and data is offered concerning cooperative arrangements among colleges/community colleges, and the nationwide network concept. The author notes that "... the library exists in post-secondary educational environment of its state and region and in a broad environment formed by other libraries ... The program for a nation-wide network strives for reciprocity, calling upon the federal government, in cooperation with the state government, to provide the means of insuring it."

13:1.0/74-5

Resource Sharing in Libraries: Why/How/When/Next Action Steps, Allen Kent, ed., 393 pp. (Marcel Dekker, New York).

These papers were delivered at a 1973 conference, "Resource Sharing in Libraries," aimed at presidents and librarians of institutions of higher education, and co-sponsored by associations representing higher education, colleges and universities, and libraries. The collection of papers was designed as a practical guide for those concerned with college and university library planning as it impinges on shared selection, acquisition, storage and retrieval. Perhaps it should be recalled that the original concept and implementation beginning in the late 1940's of cooperative "storage warehouses" for university libraries came not from librarians—who openly opposed such moves in the beginning—but from college and university presidents. No other conference proceedings so closely match the needs of those seeking help in practical library planning.

The book is organized around four planning steps: The Rationale (Part One); The Mechanics (Part Two); When to Proceed (Part Three); and How to Proceed (Part Four). It is written for the mixed audience of presidents and librarians, and most of the material will be familar to the library administrator. But the book furnishes an excellent, up-to-date overview of the concepts, the going systems and activities, and the practical steps to implement further academic library cooperative ventures in coping with the need to select and preserve the most useful materials from what seems to be an exponential increase in humankind's recorded knowledge.

All the material in this book is useful reading to the planner, but the key chapters for State, regional and national academic library planning are:

"Library Resource Sharing—How?: Basic Library Procedures" (Chapter 6), by John P. Immroth, faculty member of the hosting Graduate School of Library and Information Sciences, University of Pittsburgh, thoroughly reviews academic library *acquisitions* including the union catalog and inter-library loan; *cataloging and processing* including computerized networks, original cataloging, descriptive cataloging and even binding; *storage*, treatment of the cooperative library storage centers; *delivery of services*, involving trucks, computers, inter-library loan.

"Acquistion" (Chapter 7) by Joseph C. Shipman, Director of the Linda Hall (special) Library in Kansas City, deals with cooperative acquisition programs and gives several current examples.

"Processing" (Chapter 8) by the Library of Congress' John Charles Finzi, emphasizes the catalog as the key element to resource sharing, and describes the importance and practical application of Machine Readable Catalog Copy (MARC tapes), and the national printed catalogs such as *The National Union Catalog of Pre-1956 Imprints*.

"Toward A National Plan for Cooperative Storage and Retention of Little-Used Library Materials" (Chapter 9), by Robert H. Muller, Queens College, New York, briefly surveys and then offers practical critiques of current efforts.

"Delivery of Services" (Chapter 10), by Glyn T. Evans, Director of Library Services for the State University of New York, suggests "that we increase access to records and materials to two groups of people: librarians and users." This chapter is almost a manual for open-access to academic libraries. Clear definitions of the elements of demand, records and delivered items, the mechanism for the delivery of materials, and administrative organizations are covered.

The opening chapters (1-5) treat the "whys" of resources sharing, and the last two sections (Chapters 11-17) deal with the "whens" relating to computer technology, networking and local-regional-national cooperatives, and the future in practical terms from the State, regional and national level. Several chapters have useful bibliographies.

13:1.0/70

Report on the Development of the California State College Libraries: A Study of Book, Staffing, and Budgeting Problems. California State College, Division of Academic Planning. 116 pp. November. (California State Colleges, Office of the Chancellor, Division of Academic Planning, Sacramento).

A few State plans give sufficient consideration to academic library cooperation to be useful, even key, planning guides. This California report presents recent analyses and findings to augment the treatment of budget formulas for library growth and staffing in the second, 1966, report of this commitee (*Recommendations for the Support of California State College Libraries*). It also presents findings, analyses, and recommendations as to library staffing formulas and programs for cost reduction by various means such as control of size of collections, cooperative storage, consolidated purchasing, contract cataloging, and potentials for automation.

This volume is cited and fully annotated under entry 19:1.4/71-1, but is briefly annotated here because of its relevance to the topic area.

Higher Education Facilities Planning and Management Manuals, Volume Four: Academic Support Facilities, Harold L. Dahnke, Dennis P. Jones, Thomas R. Mason and Leonard C. Romney, 72 pp. (Western Interstate Commission for Higher Education, Boulder, Colo.).

All of the National Center for Higher Education Management Systems (NCHEMS) activities and reports should be monitored by the planner in higher education for general trends, specific studies and practical, influential manuals. This manual deals with evaluating the use and projected needs for several facilities on a campus. Volume Four uses the library as its model. Still somewhat controversial, this particular volume represents the best published example of measurement and evaluation of facility needs applied to academic libraries.

It is suggested that the academic library planner earnestly interested in the environment of higher education as it affects library development keep abreast of NCHEMS's work.

2.0 BACKGROUND, TRENDS, AND DEVELOPMENTS

13:2.0/78

"Toward a National Program for Library and Information Services: Progress and Problems," Alphonse F. Trezza, *ASLIB Proceedings*, Vol. 30, No. 2, February, pp. 72-87.

The Executive Director of National Commission on Libraries and Information Science (NCLIS) presented a status report which supplements and updates the 1975 document (13:2.0/75-3).

13:2.0/77-1

Academic Libraries by the Year 2000: Essays Honoring Jerrold Orne, Herbert Poole, ed., 205 pp. (R. R. Bowker, New York).

Contributors include: Herbert Poole, Edward G. Holley, Damon D. Hickey, A. P. Marshall, David Kaser, Thomas H. Mott, Jr., Richard M. Dougherty, Beverly P. Lynch, Lester Asheim, William H. Webb, Virgil F. Massman, Lawrence G. Livingston, William J. Welsh. This volume goes beyond the depth of most Festschriften, with a particularly useful overview of academic librarianship in the past 15 years (Holley); and chapters on standardization (Livingston) and national networking (Welsh).

13:2.0/77-2

Effective Access to the Periodical Literature: A National Program, National Commission on Libraries and Information Science, Task Force on a National Periodicals System, 92 pp. (U.S. Government Printing Office, Washington, D.C.).

The Task Force on a National Periodicals System was appointed by the National Commission on Libraries and Information Science (NCLIS) to prepare a plan for a national periodicals access program. A 3-level program was recommended, coordinating existing local, State, and regional library system services and collections with major national research libraries. A comprehensive dedicated periodicals collection was also developed, managed, and operated by the Library of Congress. The report describes planning a national periodicals program, alternative approaches, the proposed national program, the national periodicals center, governance and organization, and finances.

Each year several presentations and articles dealing with national planning appear. These tend to be generalized in nature, and only seldom deal specifically with academic library planning. Nonetheless, the careful academic library planner will keep up-to-date through such publications. Typical of the best of these are the following examples, 13:2.0/77-3, 13:2.0/75-1, and 13:2.0/75-2

13:2.0/77-3

"Status Reports on Library Network Planning in the United States," Joseph Becker, *UNESCO Bulletin for Libraries*, Vol. 31, No. 2, March-April, pp. 77-85.

Factors reponsible for the trend towards formation of library networks include financial pressures, the desire to serve more users, and the willingness to apply new technology to conventional library operations. Examples are given of three types of networks. Organizational networks are built on existing public library systems, with State legislation acting as the formal base for organization and the State library playing an important role as planner, manager, and network developer. Specialized networks limit their domain of coverage to the literature of a specific subject field and limit their network membership to those institutions with libraries and information centers that specialize in their particular field. Functional networks are organized to increase the availability and sharing of library resources among members and perform computerized functions for members at the lowest possible cost per unit. The National Commission on Libraries and Information Science, which is responsible for national library planning, has drawn up a National Program of Library and Information Services, and commissioned studies to help clarify institutional roles in the projected national network. The Library of Congress will play a crucial role in planning and development.

The following two items should be consulted by the academic library planner because of the wealth of information each contains. They are more reference sources than planning manuals, but both attempt to summarize the most current information in their subject area.

13:2.0/77-4

National Inventory of Library Needs, 1975, Boyd Ladd, National Commission on Libraries and Information Science, 277 pp. (NCLIS, Washington, D.C.).

This volume has been controversial from its inception, and conclusions drawn from its data have been even more so. On the positive side, this survey presents current data measuring library collections, staffs, acquisitions, space, hours, and operating expenditures, and compares them against "indicators of need." (On a fairly regular basis, the National Center for Education Statistics issues Libraries General Information Surveys which offer a source of current data; the Association of Research Libraries gather and issue statistics particularly useful to the largest academic and research libraries.) The controversy is caused by these "indicators"–which have not been accepted by professional associations–and the interpretation of the data to indicate needs which are considered by many library leaders to be either irrelevant or totally misleading and inaccurate. Nothing better is available, however; and this document is politically powerful because it is being used by planners at the Federal level.

Negatively, all the data and interpretations are totally institution-oriented. The client, and more especially that larger percentage of non-users, is not considered at all. The philosophy seems to be: this is what libraries look like; they need to improve; more of the same will bring that improvement; so what we need is more money to give more of the same. Not only is the client excluded in this institution-oriented thinking, but innovative, creative, new, imaginative, different approaches are totally ignored. The problem addressed is not library services, but libraries.

This volume is necessary to academic planners, but they ought also to be thoroughly familiar with "A Mission Statement for Public Libraries"

(*American Libraries*, December 1977, pp. 615-20) and the American Library Association's "Toward a National Information Policy," published in preliminary form as "Toward a Conceptual Foundation for a National Information Policy" in *Wilson Library Bulletin*, March 1978, pp. 545-49. These two documents address the current and future needs for library and information service, in terms, not of the library institution or agency, but of social and technological changes. The first third or so of the public library statement deals with the impact of user needs on libraries generally, and focuses on public libraries only in the final third. The ALA statement, not yet published in approved form, deals with the impact of information on libraries and library concerns.

13:2.0/76

Library Networks, 1976-77, Susan K. Martin, 131 pp. (Knowledge Industry Publications, White Plains, N.Y.).

This new edition supersedes and improves on a similar treatment in 1974-75. The volume is in the nature of an introduction to library networks as of early 1976. Two chapters, Chapter 3 on network applications to library operations, and Chapter 8, management of networks, are practical and especially critical of the growing trend toward multi-type library networking organizations. The introductory nature will make this useful to the administrator who feels uncomfortable about the latest in computer applications to inter-library cooperation; and Chapters 3 and 8 will be useful to the administrator entering multi-institution and multi-type library cooperative endeavors for the first time. A bibliography is included.

Susan K. Martin's articles should be watched as the most likely source of accurate, useful information on the impact of national networking activities on academic library planning. A recent example is: "The Quest for a National Bibliographic Network" in *Library Journal*, 1 January 1978, pp. 19-22. As a further note, as this publication goes to press, Martin's *Library Networks: 1978-79* has just been announced for publication by University of California, Berkeley.

13:2.0/75-1

"National Planning for Library and Information Services," Foster E. Mohrhardt and Carlos Victor Penna in *Advances in Librarianship*, Melvin J. Voight, ed., Vol. 5, pp. 61-106 (Academic Press, New York).

Government concern with libraries and information services as national responsibilities began in the 1940's and 1950's as a result of the urgent need for better access to scientific and technological information, the concurrent intensification of interest in education, and public need for readily available information in all subjects. For this review of national planning activities within the past decade, the planning of library services is regarded as one specific aspect of educational planning within the social and economic planning of a country or region, implying a continuous, systematized process of studying educational problems at all levels and the problems of scientific research from the standpoint of library needs. Two broad trends in library planning are identified: attempts to develop plans without an understanding of new planning developments, and Unesco's guidelines for national planning efforts. Unesco's accomplishments are listed, and an overview of current national activities in 22 countries throughout the world in library planning is presented. The conclusion presents common activities and identifies guidelines to be studied by those concerned with library planning.

13:2.0/75-2

"National Planning for Library and Information Services," Andrew A. Aines and Melvin S. Day, *Annual Review of Information Sciences and Technology.* Vol. 10, pp. 3-42.

An overview of national planning in several countries is provided, with a review of selected national scientific and technical plans and programs, and significant existing information systems. Governments are inevitably involved in the information processes since ascending costs force nations to seek economies of scale. Only government has the power to bring many groups together for planning purposes. There are many national and international information systems in existence. Forces conducive to national planning include economic considerations, burgeoning knowledge, international pressures, and conflict mediation. Forces inhibiting national planning include attitudes, lack of leadership, lack of common objectives, lack of public understanding, fear of government control, lack of standards, and competition among technologies. Countries with more authoritarian governments are more likely to favor national planning. Considerable growth without central planning has taken place, and problems are associated with random and disparate growth.

Each academic library planner needs to keep her/his own planning concerns in perspective and to be aware of trends and developments in the profession that may affect local, State, regional and national academic library planning. The most important and useful reading is the National Commission on Libraries and Information Science (NCLIS) report itself:

13:2.0/75-3

Toward a National Program for Library and Information Services: Goals for Action, National Commission on Libraries and Information Science, 106 pp. (U.S. Government Printing Office, Washington, D.C.).

This document seeks to provide a framework on which the library and information science professions and the American public will be able to construct a National Program for Library and Information Services for the people of the United States. It is the basic document concerning national planning for academic as well as all other types of libraries and information centers for the 1970's and into the 1980's. It is must background reading for any administrator planning academic library activities at the State, regional or national level.

Although this volume has no official status, it does present the Commission's conclusions and goals for action, the realization of which depends on support from government and citizens. Authors, publishers, and librarians are viewed as component parts of a national knowledge resource which powers our national development and nurtures our educational system. To achieve the most effective use of national information resources, a coordinated program of expenditures, facilities, and efforts is recommended in order to avoid costly, uneven, and wasteful services. The national program is derived from regional hearings, conferences, and correspondence with experts and library users. The need for this program is outlined with a discussion of present resources, the need for access, the challenge of overabundance of information, the influence of technology, copyright issues, and the rationale for Federal involvement.

Present libraries, the foundation on which a nationwide information network should be built, are discussed and described by type (public, special, school, academic and research, State and Federal). According to the document, academic and research libraries represent the bibliographic foundation of the nation's research effort. They are faced with problems of rising costs, changing education objectives, and the impact of new technology. Many have begun cooperative efforts to improve their own operational efficiency. Other academic libraries, at the college and junior college level, are inadequate.

The concerns of the private sector are also detailed, including economic viability, relationship to the Federal Government, and copyright. Present networking activities are discussed, along with barriers to cooperative action.

The recommended national program presents the following objectives:

1. Ensure that basic minimums of library information services adequate to meet the needs of all local communities are satisfied. The sharing of resources is no remedy if resources are inadequate at the local level. Federal support in the form of categorical aid is needed.
2. Provide adequate special services to special constituencies, including the unserved. These groups include the poor, the illiterate, the blind, the visually and physically handicapped, ethnic minorities, children, senior citizens, and others. New legislation would underscore this principle and provide a channel for assessing the requirements of special constituencies and taking appropriate action.
3. Strengthen existing statewide resources and systems. Not all States are at the same level of development, but because they are the essential building blocks of the system, it is important that they attain minimum levels of proficiency and strength. States must accept a fair share of the responsibility for funding libraries.
4. Ensure basic and continuing education of personnel essential to the implementation of a National Program. A federally funded program of fellowships and training institutes is basic to the fulfillment of this responsibility.
5. Coordinate existing federal programs of library and information service. Many of these programs are already performing centralized bibliographical, reference, and other services which are of benefit to all libraries in the country.
6. Encourage the private sector (comprising organizations which are not directly tax-supported) to become an active partner in the development of the National Program. Since information has an economic value of its own, the use of commercial and other private sector information services is becoming accepted as a reliable and cost-effective method of obtaining information.
7. Establish a locus of Federal responsibility charged with implementing the national network and coordinating the National Program under the policy guidance of the National Commission. The National Commission is not empowered by law to operate programs.
8. Plan, develop and implement a nationwide network of library and information service. Federal responsibilities include encouragement and promulgation of standards, assurance of availability of unique and major resource collection, development of centralized services, exploration of computer use, support of research and development, and the fostering of cooperation with similar national and international programs. State agencies and the private sector also have important responsibilities. The Library of Congress is urged to expand many of its programs.

This program requires an unprecedented investment in libraries and information centers by Federal, State and local governments.

13:2.0/74-1

The Independent Research Library, William S. Budington, National Commission on Libraries and Information Science, 31 pp. (NCLIS, Washington, D.C.) ED 100 390 IR 001-492.

This is one of several special papers commissioned by the National Commission on Libraries and Information Science to support national library and information science planning. These papers are particularly practical to the academic library planner concerned with national planning.

In the United States there are 15 to 20 independent research libraries designed to provide the corpus of records necessary to intellectual inquiry in one or more disciplines, in dimensions as complete as possible, and with the optimum provision of scholarly apparatus and physical convenience. The rare nature of much of the collections of these libraries requires special handling and highly-trained staffs, and often means restricted public access. Because of these special circumstances, research libraries may not be able to permit the general public access mentioned in the National Program for Library and Information Services. They would be able to participate in making their material available to the scholarly public with support in the form of: assistance in preparing and issuing major catalogs and bibliographies; equipment for photoduplication and transport of needed records; and transport of qualified users of the libraries. Additional support is needed to maintain the collections and for training of staff. The recognition of the independent research libraries as a national information resource and their support would be a great service to the scholarly community.

13:2.0/74-2

The National Library Network, Its Economic Rationale and Funding, Robert M. Hayes, National Commission on Library and Information Science, 49 pp. (NCLIS, Washington, D.C.) ED 114 098 IR 002 728.

This is another of the NCLIS papers which is particularly practical to the academic library planner concerned with national planning.

A study was made to develop a rationale for determining the economic justification for a national program of library and information services as described in the second draft of the National Commission on Libraries and Information Services Program Document. The economic rationale is based on improved cost effectiveness and improved utilization of capital resources. In finding formulas for assigning financial responsibility to various levels of government and segments of society, several principles must be considered. Public, academic, special, and school libraries should continue to be funded by their constituencies with State and Federal help where needed, while new public libraries should be funded by a mix of local, State, and Federal funds. System, State, regional, and national resources should be supported by their constituencies, but should be given State and Federal aid for services provided outside their constituencies. The Federal Government should fund the capital costs of the network, while the capital costs of resources should be borne by the private sector or the constituency served. Research, development, and staff training should be funded by the responsible institutions, but the Federal Government should fund programs to meet the needs generated by the national network.

13:2.0/74-3

Resources and Bibliographic Support for a Nationwide Library Program: Final Report to the National Commission for Libraries and Information Science, Vernon E. Palmour, Marcia C. Bellassai and Nancy K. Roderer, National Commission on Libraries and Information Science, Washington, D.C., 282 pp. (U.S. Government Printing Office, Washington, D.C.).

Rational development of a nationwide program for resource sharing requires cooperative collection development, bibliographic access to materials, channels of communication, delivery of materials, compensation of lending libraries, and education in concepts and use of the program. This report discusses resource sharing, organization and functions of a national library network, the national bibliographic system, economics of the network, and implementation. Appendices deal with establishing regions for activity, a survey and inventory of activities, goals and objectives of the national resource system, analysis of unfilled requests in three States, and development of the online files of the national bibliographic center. The study recommends establishment of a national library network, operated at the regional level, with the support of the Library of Congress through expansion of the MARC (Machine Readable Catalog) database.

13:2.0/69

Libraries at Large, Douglas M. Knight and E. Shepley Nourse, 664 pp. (R. R. Bowker, New York).

This is a readable reworking of the assessment and planning papers developed for the National Advisory Commission on Libraries. It was this Commission which recommended the formation of the National Commission on Libraries and Information Science.

Inadequacies in library service are described and new kinds of organization which might be brought to bear in structuring knowledge are presented. The user orientation is consistent throughout a diversity of resource material. The library and informational service needs of scholars, and the demands made on university and research libraries are examined. Attention is given to the image and problems of academic libraries, with many recommendations for the future. Observations and recommendations for national programs and networks are given.

The basic conclusions of the National Advisory Commission on libraries and specific recommendations for the development of library and information services are presented in the report. Information upon which these conclusions and recommendations are based came from formal testimony, informal discussion, regional hearings, and specially commissioned studies on relevant topics. The fundamental recommendation of the Commission is that it be declared national policy that the American people be provided adequate library and information services and that the Federal Government, in collaboration with State and local government and private agencies, lead in providing such services. Objectives are stated for overcoming current inadequacies in all aspects of library and information services. Recommendations for achieving these objectives include: (1) establishment of a national commission of libraries and information science as a continuing Federal planning agency, (2) recognition of the Library of Congress as the national library of the United States, (3) establishment of a Federal institute of library and information science, (4) recognition of the important current role of the U.S. Office of Education in meeting library service needs, and (5) strengthening of State library agencies. Statements establishing the President's Committee on Libraries and the Commission are appended, along with lists of special studies, regional hearings, and Commission meetings and witnesses.

13:2.0/68

Undergraduates and Junior College Libraries in the United States, Report Prepared for the National Advisory Commission on Libraries, 105 pp. ED 022 487 LI 000 367.

This study was conducted to assess undergraduate and junior college libraries and to consider future development. Major trends are seen as: resources not increasing as rapidly as the college population's increased demands on libraries due to changes within the colleges, new technology, changing characteristics of library materials, increased pressure for interlibrary cooperation and service to the non-college public, greater participation by the Federal Government, more selective acquisition, library experimentation and changing staff needs. Problem areas include increased demand for college library facilities, inadequate collections, staffing, unique problems of junior college libraries, the need for national leaders in technical areas, copyright restrictions, a need for research and planning, existing Federal legislation and governmental programs affecting college libraries, and lack of focus in college educational programs. A major recommendation is the establishment of a national commission to plan and coordinate programs and determine which college library projects should be approached at the Federal, regional, and State levels. Other recommendations involve the Higher Education Act, library education and job classification, a demonstration project for junior college libraries, and copyright and other legislation. A bibliography of 48 items is appended.

3.0 STUDIES FOR PERSPECTIVE

The following citations are important, but not first priority. They are either not currently practical but are still unsuperseded landmarks; or they are highly useful but difficult to acquire. Any serious planner probably should take the time to locate and pursue these works if only to keep her/his historical, social and technological perspective.

13:3.0/75

"The Library of Congress and American University Libraries," Robert B. Downs, pp. 91-96 in *University Library Problems*, (Almqvist and Wiksell, Uppsala, Sweden).

According to the author, for all practical purposes the Library of Congress serves as the national library of the United States. However, except for the printed card service, cooperation between LC and the nation's scholarly libraries was slow and reluctant until joint enterprises such as the publications of the *Library of Congress Catalog of Printed Cards*, the *National Union Catalog Pre-1956 Imprints*, and other joint bibliographic projects. LC and American research libraries have also participated in joint acquisitions programs, cooperated in development of computer applications and book microfilming and preservation techniques. The authors conclude that only through financial support of Congress will a truly national network of library and information centers emerge in the United States.

13:3.0/72

"A National Program for the ARL," Association of Research Libraries, pp. 2-15 in the Minutes of the Seventy-Ninth Meeting, January 22, Chicago, Illinois, (Association of Research Libraries, Washington, D.C.).

A discussion of major issues of concern to the research library community is provided, including a clear statement of long-term goals for national programs and the most effective relationship of the Federal Government to the research library community. Recommendations were made for:

(1) Development of a research library corporation as a mechanism for collective action in resource development (i.e. journal lending libraries, national pools of negative microfilm, national preservation programs, and national plans for the rapid transmission of information).

(2) Development of library collections as national resources that would be sufficiently comprehensive to serve the needs of the public at large (national centers of resource excellence).

(3) Establishment of a national periodicals center for interlibrary loan.

13:3.0/71

"Collective Action by Research Libraries: Problems and Potential," Association of Research Libraries, pp. 50-61 in the Minutes of the Seventy-Eighth Meeting, May 14-15, Colorado Springs, Colorado, (Association of Research Libraries, Washington, D.C.).

This is a panel discussion concerning the most productive forms of collective action by research libraries, presenting some of the possibilities for interinstitutional cooperation: development of a national serials collection, creation of a national collection of negative microfilms with loan copies of prints, a national lending library of books received through National Program of Acquisitions Cataloging (NPAC), a processing center for data in machine-readable form, subject-based information centers for the sciences, national continuing education programs for professional members of research library staffs, a national bibliographic center, a book preservation center, and a collective action in resource development, bibliographic control, and physical access to library materials. The role of the Association of Research Libraries (ARL) is to be a means of disseminating information about planning on a national level. Other ARL concerns include the need for national support in access to research materials, improved collections of national libraries, and regional interlibrary loan centers.

13:3.0/64
The Future of the Research Library, Verner W. Clapp, 114 pp. (University of Illinois Press, Urbana).

The major problem facing research libraries, due to the increasing rate of information production, are outlined. Suggested programs for overcoming obstacles include development of high-ratio-reduction microphotography, improvements of arrangements for sharing resources, improvement of the supply of cataloging information, improvement of the published bibliographic apparatus, improvement of union catalogs, further attacks on the problem of deterioration of book stock, improved techniques of book storage and delivery, prevention of theft and mutilation, improved procedures of acquisition and record-keeping, improved user services, and development of new or improved devices for library applications.

Several studies, not easily accessible, offer excellent thought provoking and informative material to the careful academic library planner. Among the best are:

13:3.0/S
Colorado Academic Libraries Book Processing Center, Lawrence E. Leonard, Ralph E. Ellsworth, Richard M. Dougherty and Don S. Culbertson, 388 pp. (Available from the Clearinghouse of the Federal Scientific and Technical Information, Springfield, Va.).

A model study with concepts and approaches applicable to any State or regional consideration of cooperative processing, this report summarizes the results of a 14-month study to (1) examine the feasibility of establishing a book processing center to serve the nine State-supported college and university libraries in Colorado and (2) conduct a simulation study of the proposed center. The report covers: background, operational characteristics of participating libraries, cost analysis, business office procedures, proposed operating specifications for the book processing center, and results of a library-user attitude survey. It is concluded that a centralized book processing center is feasible, with benefits for participating academic institutions in the cost savings, personnel specialization, and library automation. Recommendations emphasize establishment of a processing charge, processing both English language and foreign language materials, an automated bookkeeping system, automated processing procedures, development of current awareness bibliographies, and a central depository of standard times for performing technical services activities to be established by the American Library Association (ALA) Resources and Technical Services Division. Appendixes include a 68-item bibliography, detailed numerical data from the study, and the questionnaires and research tools used.

4.0 REGIONAL LIBRARY STUDIES

Regional, that is multi-state, surveys and plans would seem to be a major source for up-to-date, practical and specific data on academic library planning at the State and regional level. In practice such publications seldom meet this expectation. Examples of such studies or surveys are those for the Pacific Northwest (1961, see the last section of this chapter for an annotation); and the Southwest (Grace T. Stevenson's *ALA Chapter Relationships–National, Regional, and State*, ALA, 1971).

The following annotation should illustrate the value as well as the frustration for the academic library planner of such studies. It is the best example of current regional planning. Although the Pacific Northwest study is the best regional plan published, it is over 15 years old and can serve only as a model for other such efforts. (It is cited later in the bibliography.)

13:4.0/76-1

Libraries and Library Science in the Southeast: A Report of the Southeastern States Cooperative Library Survey, 1972-74, Mary Edna Anders, 263 (University of Alabama Press, University).

People of the southeastern region of the United States receive direct library service from academic, public, school, and special libraries. Chapter III, "Points of Service," presents survey findings concerning these types of libraries. Academic libraries are described in detail, including finances, staff, collections, services and activities, equipment, and quarters. Comparisons are drawn between the results of the 1972-74 and the 1946-47 surveys. Recommendations include increased financial support for collection development, increased research holdings, support of network development, increased attention to professional growth of staff members, greater use of non-library professional personnel, expanded services, and greater emphasis on planning and investigating development and management. Detailed descriptions of public, school, and special libraries are also provided.

Chapter V, "Library Services for the Southeast: An Overview," deals with the many trends identified with the Southeast in the 1950's and 1960's which had significant implications for libraries. These trends resulted in substantial advances in the development of resources and services since 1947. Examples include larger, broader collections, expanded services, statewide plans, increased library/media services in schools, new buildings, and increased access for employees of various organizations to libraries at their places of work. Collections often include non-book materials in addition to books and periodicals. Professionals are better prepared to develop collections and provide services. Academic libraries spent the largest proportion of the libraries' total expenditures, and spent the largest portion on acquisitions. Mechanization has come to some libraries. However, the survey data also confirmed specific inadequacies of library resources and services in the region, such as uneven development, lack of access to over three million people in the region to any public library service, need for more librarians and supportive personnel, need for more books, higher salaries, broader services, and more opportunities for professional growth of staff. None of the nine recommendations of the 1947 survey has been achieved in its entirety. Recommendations include a more effective leadership by the Southeastern Library Association, greater emphasis for resource development, unified regional planning, supplemental support for cooperative acquisition of research materials by academic libraries, and initiation of a region-wide continuing education program for librarians.

Either dated, or not as practical as those items cited earlier, the following has both historic and intellectual value to the planner.

13:4.0/76-2

National Planning for Library Service, 1935 to 1975: From the National Plan to the National Program, Redmond Kathleen Molz, D.L.S., (Dissertation available only on inter-library loan, Columbia University, New York).

This study traces the growth of the idea of national planning for library service in the United States from the period of the great depression in the 1930's to the present. With the publication by the American Library Association in 1935 of *A National Plan for Libraries*, a new era for the library profession was begun. This action by the librarians through the aegis of their professional association coincided with and was influenced by the development of a new phenomenon in the United States, national socioeconomic planning. A Federal centralized planning agency, the National Planning Board, was established in 1933 as part of Roosevelt's administration. Throughout the 10 years of its existence, the Board issued an impressive array of publications covering all phases of American social and economic life. The creation of this Board acted as a stimulant to the Association, inspiring some of its leaders, notably Carl H. Milam, Carleton B. Joeckel, and Louis Round Wilson, to define the goal of American librarianship as the development of a coordinated library system serving the cultural, recreational, and educational needs of all Americans through an array of libraries, comprising those serving the general public, the public schools, institutions of higher learning, and those in specialized environments, such as businesses and industrial plants.

Planning for libraries as a national service, rather than on an individual institutional basis, was furthered in the decade of the 1940's by the attention paid to post-war planning, when the nation would be required to shift from a full-employment, defense-oriented economy to an anticipated post-war era of peace and prosperity. Again, the Association responded to this national trend by the appointment of a Committee on Post-War Planning, chaired by Carleton B. Joeckel. The study examines the work of this Committee in developing the *Post-War Standards for Public Libraries* and *A National Plan for Public Library Service*.

As the Association perceived the issue, the implementation of national planning could only occur through Federal subsidy, and the study also analyzes the Association's role in lobbying for Federal aid. Conceding the defeat that the all-encompassing program which it was recommending would face once before Congress, the Association took a posture of retrenchment and determined to seek Federal funds only for the rural population, which was largely unserved by any public library. Again, the Association showed a response to factors outside its own orbit, the rural library plank reflecting national interest in rural sociology and in regional development schemes, such as the Tennessee Valley Authority which primarily affected rural areas.

The Association continued to act as the leading spokesman for national planning until 1968 when the report of the National Advisory Commission on Libraries was issued. The Commission, appointed by President Johnson in 1966, recommended that establishment of a permanent national commission to serve as a continuing long-range federal planning agency for the nation's libraries. With the appointment of this permanent commission in 1970 by President Nixon, a new mechanism for national library planning was brought into being. The study analyzes the role of a presidential advisory commission in the determination of public policy, and carries the development of national library planning through 1975 when the National Commission on Libraries and Information Science issued its major recommendation for a nationwide network in a document entitled *Toward a National Program for Library and Information Services: Goals for Action*. The study purports to show that national library planning has evolved over a period of 40 years; its principal finding is that the 1975 *National Program* is the lineal descendant of the 1935 *National Plan*.

13:4.0/61

Pacific Northwest Library Association Library Development Project Reports, Vol. III: College, University and Special Libraries of the Pacific Northwest, Morton Kroll, ed., 310 pp. (University of Washington Press, Seattle).

Kroll's four volumes, *Pacific Northwest Library Association Library Development Project Reports*, (University of Washington Press, Seattle, 1960), are the classic regional study of library needs. Though seriously out-of-date, the approach of Kroll and his authors stands as the model for such a study. One volume each is devoted to:

I. *Public Libraries of the Pacific Northwest;*
II. *Elementary and Secondary School Libraries of the Pacific Northwest;*
III. *College, University and Special Libraries of the Pacific Northwest;*
IV. *Libraries and Librarians of the Pacific Northwest.*

More recent studies have emphasized the need for multi-type library cooperation and user-oriented planning, but even this approach is seen in its incipient form in these milestone studies.

In the first half of Volume III, the policy making and control, relationship to public libraries, and research functions of college and university libraries are examined. Findings indicate that confusion exists as to the library's place in the college environment, an extension of difficulties centering around the role of the college or university itself. The contributors indicate that the scholar and librarian must learn to work together. The policymaking process in the university as it affects library policies is emphasized. Later chapters examine the research scholar's perception of his library's resources and the relationship of the college or university library to the nonacademic part of the community, including areas of cooperation. The rest of the book gives a comprehensive picture of law, medical, and federal libraries.

5.0 SUPPORT AND DATA SOURCES

5.1 National

Difficult to access, and typically available only on microfiche, are the support and data gathering studies done for the National Commission on Libraries and Information Science. Those which are pertinent and useful to the academic library planning process already have been cited. A few examples of the range and scope of the other studies follow:

Bourne, Charles P. and others, *Preliminary Investigation of Present and Potential Library and Information Service Needs*, ED 073 768, February 1973.

Stevens, Rolland E., *A Feasibility Study of Centralized and Regionalized Interlibrary Loan Centers*, ED 076 206, April 1973.

Trezza, Alphonse F., Director, Illinois State Library, *Relationship and Involvement of the State Library Agencies with the National Program Proposed by NCLIS*, ED 100 387, November 1974.

Budington, William S., Executive Director and Librarian, the John Crerar Library, *The Independent Research Library*, ED 100 390, October 1974.

Duggan, Maryann, "Relationship and Involvement of the Multi-State Library and Information Community with the National Program for Library and Information Services", in progress.

The National Library Network, Its Economic Rationale and Funding, ED 114 098.

The Role of Not-For-Profit Discipline-Oriented Information-Accessing Services in a National Program for Library and Information Services.

Trezza, Alphonse F., *Statistics as Tools in Library Planning on the State and Institutional Level*, ERIC ED 105 830.

5.2 State

Each of the 50 States has been required to develop a 5-year plan for library development. These plans were submitted to U.S.O.E. for purposes of funding planning. As would be expected, these plans range from pedestrian to highly innovative. The academic librarian must be and probably is familiar with studies and plans pertaining to her/his State. Those which have impact or ideas beyond the individual State were cited earlier. Below is a list of some of the more respected State studies and surveys more to illustrate the range than for recommended reading.

Nelson Associates, Inc., *A Program for the Rapid Improvement of Community College Libraries in Michigan; a Report of a Survey Undertaken for the Michigan State Library*, Nelson Associates, New York, 1965.

Little (Arthur D.), Inc., *The 3R's Program–Meeting Industry's Information Needs. Report to the Division of Library Development, New York State Library*, ED 022 500, Boston, September 1967, 78 p.

Nelson Associates, Inc., *Interlibrary Loan in New York State, A Report Prepared for the Division of Library Development of the New York State Library*, ED 028 794, New York, February 1969, 320 p.

Nelson Associates, Inc., *The New York State Library's Pilot Program in the Facsimile Transmission of Library Materials, A Summary Report*, ED 022 501, New York, June 1968, 93 p.

Downs, Robert B., ed., *Resources of North Carolina Libraries*, Governor's Commission on Library Resources, Raleigh, North Carolina, 1965, 242 p., ED 027 038.

North Carolina State Board of Higher Education, *Libraries in North Carolina Public Senior Colleges and Universities: Present Status and Future Needs*, Raleigh, January 1969, 53 p., EDPS in process.

Tennessee Higher Education Commission, *Higher Education for Tennessee's Future*, (n.p.) Tennessee Higher Education Commission, 1973.

14

Management—Quantitative Approaches

Ben Lawrence

* * *

Management is the function designed to obtain and utilize efficiently and effectively the resources needed to accomplish desired ends. This section deals with quantitative approaches to planning and management in colleges and universities and State systems. The higher education planner/manager who seeks to apply quantitative approaches must initially address these basic questions: 1) Will quantitative approaches help with this particular planning decision? 2) What information is needed? 3) Where can this information be obtained? 4) What techniques will be used to analyze the information so that it illuminates the decisionmaking issue? The entries in this topic area show that planners can find answers to these questions through the use of models and manuals. The literature falls into three subtopics based upon the above question. (Information on the third question is found in Topic 15: Planning—Issues, Theory, Reference; Subtopic 4.4: Data and Information Sources and Services.)

Critique and Evaluation. Quantitative approaches to planning and management are relatively new to higher education. There is still considerable opposition to and reservation about their use in such an important and labor intensive enterprise. The works included in this subtopic are evaluative in nature, touching upon the advantages and disadvantages of applying quantitative approaches to higher education management. Planners and managers need to be aware of these discussions and evaluations as they consider use of these tools.

Foundations. The paramount need of the higher education manager who seeks to apply quantitative approaches is for an "information language" that can adequately describe higher education institutions, agencies, and programs. Such a language is important in two respects. First, it provides the basic vocabulary for talking about higher education as it relates to management. Second, it is language which guides or structures the way that complete thoughts are formed, thoughts and ideas which lead planners to make management decisions. The works referenced in this subtopic fall into two categories—dictionaries and glossaries dealing exclusively with standard definitions, and volumes that address terms, definitions, and procedures common to the language of postsecondary education.

Other annotated manuals, largely from the National Center for Higher Education Management Systems (NCHEMS), deal with standard definitions, and volumes that address terms, definitions, and procedures common to the language of postsecondary education. Still other manuals deal with library organization, manpower resource management, outcomes structures, and facilities planning.

Analysis. This subtopic provides references to generalized mathematical models relevant to State and national planning. These publications usually include documentation and application manuals. The models are generally computerized and synthesize the volume of data a planner must consult in reaching decisions. Models which deal with specific planning topics such as costing, facilities projection, and faculty tenure are included, respectively, in Topic 16: Productivity and Cost-Benefit Analysis; Topic 9: Finance; Topic 2: Campus and Building Planning; Topic 8: Faculty.

TOPIC ORGANIZATION

14: Management—Quantitative Approaches
  1.0 Critique and Evaluation
  2.0 Foundations
    2.1 Dictionaries and Glossaries
    2.2 Measures, Structures, and Procedures
  3.0 Analysis

1.0 CRITIQUE AND EVALUATION

See also 16:2.3/78 A Study of Cost Analysis in Higher Education, Carl R. Adams, Russell L. Hankins, Roger G. Schroeder, and Gordon W. Kingston, Vols. 1-4, (American Council on Education, Washington, D.C.)

14:1.0/77-1

The Impact of Management Information Systems on Resource Allocation Decisions of Selected Private Liberal Arts Colleges, Michael Lloyd Tierney, (Ph.D. Dissertation, University of California, Los Angeles).

This study explores the impact of computer-based management information systems on the direct costs of selected academic departments. Two comparisons are made. First, colleges which have implemented "databank" information systems are compared with colleges which have manual information systems. Databank systems involve the collection and storage of data and the retrieval of information for the production of periodic reports. Second, colleges which have implemented "predictive" information systems are also compared with colleges which have manual information systems. "Predictive" systems utilize complex computer software to simulate instructional costs. Both comparisons attempt to determine if the use of either databank or predictive systems is associated with significant reductions in departmental expenditures.

In the analyses of the 4-year effects, predictive systems were significantly ($p \leq .01$) associated with reductions in departmental expenditures, but only when the department was the unit of analysis. Similar results were obtained when the institution was the unit of analysis, but because of the limited degrees of freedom, these results are not statistically significant. There were no significant 2-year effects of either type of system.

Colleges with "predictive" systems were able to raise their student/faculty ratios by increasing enrollments while holding constant or reducing the number of faculty through attrition. Colleges with databank or manual systems were forced to reduce staff because they were unable to increase enrollments.

These results suggest that the information provided by predictive systems aids in controlling departmental expenditures. While most college administrators know that larger student/faculty ratios will reduce departmental expenditures, predictive systems allow them to estimate the fiscal implications of alternative means of increasing this ratio. These systems can also force faculty to consider the cost implications of various alternatives when competing for resources.

14:1.0/77-2

"Planning Models in Higher Education Administration," Roger N. Guant and Michael J. Haight, *Journal of Education Finance 2*, Winter, pp. 305-323.

This brief article on mathematical planning models is written from a nontechnical perspective by two very knowledgeable and experienced modeling experts. It is written for administrators and addresses the issues and problems surrounding the real-world application of such models. It reviews several of the most prominent models and discusses the implications of their use for decisionmaking.

14:1.0/77-3

Quantitative Approaches to Higher Education Management: Potential, Limits, and Challenge, G. Ben Lawrence and Allan L. Service, eds., 91 pp. (American Association for Higher Education, Washington, D.C.).

This work attempts to assess and describe the current status of the complex approaches and techniques that fall under the heading of quantitative approaches to higher education management. Designed for the executive reader, it provides a brief history of the roots of quantitative approaches to management, a discussion of the assistance quantitative approaches can provide, and their limitations and complexities. The more substantive sections deal with data and data standards and procedures as the foundations for quantitative approaches, information systems, cost and resource information, goals and outcome information, and models and model building. The other sections report on evaluation studies of various quantitative approaches and their general impact describing factors that influence the use of these new approaches as well as making some predictions about their future use and development.

2.0 FOUNDATIONS

2.1 Dictionaries and Glossaries

14:2.1/78

Adult/Continuing Education: A Handbook of Standard Terminology for Describing the Learning Activities of Adults, G. Roger Sell, 248 pp. (Prepared for the National Center for Education Statistics by the National Center for Higher Education Management Systems, Boulder, Colo.).

This handbook provides terms and definitions for collecting and reporting information that describes the learning activities of adults. The terms and definitions in this handbook represent information items that, when used consistently, provide a basis for meaningful communication among the various institutions, organizations, and agencies that serve adult learners. Major categories of information that are needed to describe significant aspects of the learning activities of adults are identified. A classification structure of terms and definitions within the major categories of information is presented, including subdivisions of information categories. Standardized terms and definitions to represent items of information and a glossary of terms are provided.

14:2.1/77

A Glossary of Standard Terminology for Postsecondary Education, Sherrill Cloud, 93 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

This glossary is intended to be used as a reference book by those who exchange or collect information throughout postsecondary education —especially by those who deal with data in institutions, governmental agencies, and educational associations. It was developed to be consistent with other efforts by NCHEMS and the National Center for Education Statistics (NCES) to promote awareness and use of a common language of terms, definitions, and procedures in postsecondary education.

See also: 12:1.2/76-1 A Classification of Institutions of Higher Education, A Report of the Carnegie Council on Policy Studies in Higher Education (CCPSHE, Berkeley, Calif.). During 1978-79, the National Center for Education Statistics and the National Center for Higher Education Management Systems plan to release an alternative classification of institutions designed to provide homogeneous groupings of institutions across the full range of postsecondary education which will be based exclusively on available federal data.

14:2.1/75

Statewide Measures Inventory, Paul Wing, James McLaughlin and Katherine Allman, (Technical Report No. 68, National Center for Higher Education Management Systems, Boulder, Colo.).

As indicated by the authors in the introduction:

> The *Statewide Measures Inventory* is essentially a list of items of information, along with concise definitions and other information of interest, relevant to statewide postsecondary education planning and management. It has been designed primarily as a working document for use by State-level postsecondary education planners and decision makers.

The document includes a 68-page paper that discusses in nontechnical terms the origins, features, and possible uses of the inventory in State-level planning.

14:2.1/73-1

Data Element Dictionary: Second Edition, Suzette Goddard, James S. Martin and Leonard C. Romney, (Technical Report 51, National Center for Higher Education Management Systems, Boulder, Colo.).

This volume is the only published and regularly revised reference of its type dealing with postsecondary education data definitions and codes. For each data element a concise definition is provided, codes and categories are suggested and comments are made concerning linkages with other elements, conversions, and relationships to Higher Education General Information Survey (HEGIS) and FICE codes. The appendices provide other valuable standards associated with data management, classification, and use. The three and one-half inch thick volume is bound in hardback looseleaf style, designed for regular revision without complete reprinting. Revisions are made regularly and volume owners are provided updates.

14:2.1/73-2

Program Measures, James R. Topping and Glenn K. Miyataki, 245 pp. (Technical Report 35, National Center for Higher Education Management Systems, Boulder, Colo.).

This manual was developed as a companion document to the NCHEMS *Program Classification Structure*, (PCS) but is useful to any planner utilizing a similar or modified structure. To use or implement the PCS or a similar approach, various items of information are required to describe each element within the structure. For example, as the authors note in Chapter I:

. . . an activity identified by the PCS is 'instruction in the Physics discipline at the lower-division level.' But just to know the name of the activity is not enough. There is a need to identify the content of this instruction activity: the number of enrollments, the number of courses offered, the number of faculty assigned to teach the courses, etc. Therefore, descriptive information must be associated with the PCS in order for it to be used at all. Moreover, these information items can be arranged or structured in a manner that will facilitate the process of analyzing higher education programs. These categories of information are collectively called 'program measures.'

2.2 Measures, Structures, and Procedures

14:2.2/78-1

A Federal Postsecondary Education Data Core: An Executive Summary, Marilyn McCoy and Melvin D. Orwig, (Technical Report 85, National Center for Higher Education Management Systems, Boulder, Colo.).

Toward A Postsecondary Education Data Core, Marilyn McCoy, 230 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

These two documents (one an Executive Summary) are initial drafts of a manual designed to identify Federal postsecondary education planning issues and the data that are needed to address those issues. The work, sponsored by the National Center for Education Statistics (NCES) and conducted by NCHEMS, is expected to lead to the development of a clearer framework for Federal postsecondary data collection as a basis for facilitating data coordination across the many Federal agencies which collect data needed for postsecondary education planning.

14:2.2/78-2

State-Level Postsecondary Education Financial Reporting, Richard H. Allen, 175 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

This document reflects the status of State-level financial reporting structures and of the NCHEMS *Higher Education Finance Manual* (1975-1) expenditure and revenue categories as of January 1, 1978. The document will be updated periodically by the combined efforts of the State Higher Education Executive Officers, the National Center for Education Statistics, and the National Center for Higher Education Management Systems. It is intended to assist State-agency staff in reading and understanding

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financial data from other States and to highlight the areas in which adjustments may need to be made before financial data can be used for interstate comparisons. The looseleaf binding is designed to facilitate updating.

14:2.2/77-1

Information Exchange Procedures for Major Research Universities, James Topping and Ed Myers, (National Center for Higher Education Management Systems, Boulder, Colo.).

This handbook is a field review edition of a set of procedures designed in recognition of the complex interpenetrations of the several functions of major research universities. These procedures were developed by NCHEMS in recognition that NCHEMS Information Exchange Procedures (1976-1) do not adequately describe the complex research institutions.

While this document has been carefully developed with the assistance of an advisory committee from six major research universities, it has not at this time been pilot tested for practical feasibility. Its purposes are essentially the same as those of the NCHEMS Information Exchange Procedures, (See also: 14:2.2/76) even though the approach to the task is significantly different.

14:2.2/77-2

Library Statistical Data Base Formats and Definitions, Dennis Jones, Maryann Kevin Brown, Anita McHugh, Ed Myers, and Mary Haenselman, 349 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

The development of a library statistical data base has concentrated on the management information needs of public and academic libraries. In this context, the data contained in the management information system describes the environment, the overall resources, and the programmatic activities of the library. The environmental data of the library includes information which describes the external setting of the library, the internal organization of the library, and the target group served by the library. The overall resources of the library include four major types of data: collection resource data, human resource data, financial data, and facility resource data. Finally, the data concerning programmatic activities organizes the library into major activity or functional areas. For each of these, a series of measure categories are used to describe and evaluate the activity of the library. These measures describe revenues/expenditures, personnel, facilities, activities, users, and outcomes/performance of each of the activity areas.

The framework of information and the data set described provide the library manager a more informed basis for 1) internal decisionmaking and planning, 2) comparison and communications, and 3) reporting to external agencies and organizations. As such, the data base as outlined and presented represents a first major effort to develop such a comprehensive system for academic and public libraries. Although changes and refinements will be dictated through the practical application of the data base, it provides an excellent beginning to a valuable management tool for the individual library and library manager.

14:2.2/77-3

A Manual for Budgeting and Accounting for Manpower Resources in Postsecondary Education, Dennis P. Jones and Theodore H. Drews, 66 pp. (U.S. Government Printing Office, Washington, D.C.).

This manual is the product of a 6-year joint effort by the National Center for Education Statistics (NCES) and the National Center for Higher Education Management Systems (NCHEMS). While most institutions of postsecondary education do have marginally acceptable personnel systems, their capacity to acquire and use manpower resource data is considerably less well developed. Manpower resource data are those most relevant in the context of planning and accountability, and thus, also the subject of much data exchange and reporting.

The manual describes, in detail, the basic elements of an information system designed to support the management of manpower resources in institutions of postsecondary education. The system is compatible with NCHEMS's *Program Classification Structure* and NCES's *Higher Education General Information Survey*.

14:2.2/77-4

The Outcomes Structure: An Overview and Procedures for Applying It in Postsecondary Education Institutions, Oscar T. Lenning, 79 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

This document is designed specifically to describe practical uses of the NCHEMS Structure for the Outcomes of Postsecondary Education (1977-8) as well as detailed procedures for its implementation in institutions.

It provides an overview of the structure and is very helpful to individuals who wish to orient trainees with the structure and its uses.

14:2.2/77-5

Previous Attempts to Structure Educational Outcomes and Outcome-Related Concepts: A Compilation and Review of the Literature, Oscar Lenning, (National Center for Higher Education Management Systems, Boulder, Colo.).

Over the years, there have been many attempts to structure and order educational outcomes so that the relationships of outcomes and outcome-related concepts to one another with other factors can be clearly shown. Establishing such relationships is an important aspect of both planning and evaluation.

This document reviews the structural frameworks of more than 80 previous attempts to structure educational outcomes and related concepts. It is useful to the planner who would like to consider different approaches developed in differing contexts and it is, of course, extremely valuable to the individual interested in conducting research on outcomes.

14:2.2/77-6

Program Classification Structure: Second Edition, Douglas J. Collier, 65 pp. (Technical Report 101, National Center for Higher Education Management Systems, Boulder, Colo.).

As the author states in the introduction: "The Program Classification Structure is a set of categories and related definitions which allows its users to examine the operations of a postsecondary education institution as they relate to the accomplishment of the institution's objective. Specifically, the PCS is a logical framework for arraying information in a hierarchical disaggregation of programs in which a program is defined as an aggregation of activities serving a common set of objectives."

The first edition, published in 1972, represented the culmination of two year's work by representatives of all sectors of higher education. It has either been adopted directly, or adopted for specific purposes, by hundreds of higher education institutions, by many State-level planning agencies, by most Federal-level educational-planning agencies, and by institutions in several foreign countries.

The second edition revises the original structure to accommodate changes in the nature of planning and management that have accrued since the early 1970's. It also recognizes the evolving nature of "postsecondary" education as compared to the more traditional concept of "higher" education.

14:2.2/77-7

State-Level Information Base, Dennis P. Jones, Anahid Katchian, Marilyn McCoy, and Melvin D. Orwig, (Technical Report 85, National Center for Higher Education Management Systems, Boulder, Colo.).

This document represents an interim report of a major effort of the National Center for Higher Education Management Systems working with State higher education agencies to improve information bases for use in postsecondary education planning at the State level. The document was developed in its present form for pilot testing the prototype State-level information base in at least five States. That pilot test should be completed during 1978.

The document addresses data requirements deductively from a diverse set of planning issues which may be generally categorized as, 1) determining demand for postsecondary education, 2) ascertaining required characteristics of the postsecondary education system, 3) estimating resources, 4) financing, and 5) affirmative action.

14:2.2/76

Introduction to Information Exchange Procedures: A Guide for the Project Manager, Gary S. Gamso and Allan L. Service, 115 pp. (Technical Report 76, National Center for Higher Education Management Systems, Boulder, Colo.).

The NCHEMS Information Exchange Procedures (IEP) are a standard set of data definitions and procedures for collecting data that may be used by postsecondary education institutions to produce compatible information useful both for comparison of internal activities and for exchange and comparison with other campuses.

The set of information produced by those procedures includes instructional outcomes and institutional cost and descriptive characteristics data.

While NCHEMS advises against the use of IEP for State planning–and encourages the use of its State-Level Information Base Procedures–several States have and do use IEP with considerable satisfaction.

This document is intended to help the administrator by describing briefly the Information Exchange Procedures and many related issues, and by providing a guide to planning and organizing an IEP implementation effort. If a decision is made to implement IEP the guide's documentation and supporting software must be obtained.

14:2.2/75-1

Higher Education Finance Manual, Douglas J. Collier, 159 pp. (Technical Report 69, National Center for Higher Education Management Systems, Boulder, Colo.).

The purpose of the Higher Education Finance Manual (HEFM) is to facilitate the communication of financial data for purposes of planning and management. The manual: 1) Describes the principles and practices associated with higher education fund accounting so that the "layman" can better understand financial data when presented in a fund accounting format; 2) Provides uniform definitions and procedures for displaying and reporting those financial data used most often in higher education; 3) Describes formats for the display and reporting of institutional financial data that logically organize those data specifically for the needs of planning and management; and 4) Provides explanations of the uses and limitations of higher education financial data provided in those formats so users of the information will better understand its significance and how it can be applied.

The definitions of terms, accounting procedures, and data categories set forth in HEFM are intentionally consistent with *Audits of Colleges and Universities* published by the American Institute of Certified Public Accountants and *College and University Business Administration* published by the National Association of College and University Business Officers. NCHEMS is planning a publication dealing with State-level applications of HEFM.

14:2.2/75-2

Outcomes Measures and Procedures Manual, Sidney S. Micek, Allan L. Service, Yong S. Lee, 335 pp. (Technical Report 70, National Center for Higher Education Management Systems, Boulder, Colo.).

This manual defines a wide range of measures of the outcomes (results or impacts) of postsecondary education institutions and their programs and suggests procedures for acquiring the data needed for each measure. An overview of the manual provides a context and procedures for its use. Measures and procedures are divided into three major categories: student growth and development, new knowledge and art forms; and community impact.

14:2.2/74

An Examination of Possible Statewide Applications and Extensions of NCHEMS Program Classification Structure, Paul Wing and Leonard Romney, (Technical Report 50, National Center for Higher Education Management Systems, Boulder, Colo.).

This reference book does exactly what its title implies—suggests possible applications and extensions of NCHEMS Program Classification Structure (1977-8) to statewide planning. In so doing, it touches upon the sensitive question of the level of detail of which data are required for statewide planning. The document does not purport to be a standard or a policy statement. It is designed as a reference for those who wish to utilize the Program Classification Structure at the State level.

See also: 9:6.0/A-5 Higher Education Prices and Price Indexes, D. Kent Halstead, 114 pp. U.S. Department of Health, Education, and Welfare, (U.S. Government Printing Office, Washington, D.C.).

Higher Education Prices and Price Indexes: 1978 Supplement, D. Kent Halstead, 48 pp. National Institute of Education, (U.S. Government Printing Office, Washington, D.C.).

16:1.3/77-3 A Structure for the Outcomes of Postsecondary Education, Oscar T. Lenning, Yong S. Lee, Sidney S. Micek, and Allan L. Service, 72 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

19:1.4/71-1 Higher Education Facilities Planning and Management Manuals, Harold L. Dahnke, Dennis P. Jones, Thomas R. Mason, and Leonard C. Romney, (Western Interstate Commission for Higher Education, Boulder, Colo.).

3.0 ANALYSIS

14:3.0/77

The State Planning System Documents, Technical Reports 86-97, Roger Bassett, Ellen Cherin, Mark Chisholm, and Vaughn Huckfeldt, (National Center for Higher Education Management Systems, Boulder, Colo.).

While the primary purpose of these 12 volumes is to introduce, describe, and comprehensively document the State Planning System, they also serve as excellent general references for those interested in using models in planning, even if they elect not to use the State Planning System. This entry stands alone because all relevant works of significance are discussed and referenced. The volumes are organized as a cohesive, related set of documents designed to provide the reader with increasing levels of detail. The numbering sequence suggests a reading order probably intended by the authors. The executive-level planner seeking an overview is advised first to read Technical Report 89.

Each of the volumes are separately annotated:

Modeling and SPS, Technical Report 89 is designed for the executive-level planner. The first section of this volume discusses the contributions mathematical modeling can make to planning; reviews the major national efforts to apply modeling to postsecondary education planning; provides criteria for selecting a model; and discusses the major criticisms of modeling and directions for further development.

The second section reviews the efforts of eight individual States in the use of models and provides a list of 17 criteria intended to guide State-level and other model-users in the task of planning and evaluating agency modeling efforts.

In the third section, the State Planning System is described as a modeling tool. While not explicitly stated, the authors have attempted to respond to the criticisms of modeling described in the first section. The SPS offers to the planner with a modicum of analytical and computer staff support, a complete system for designing a model to address a particular problem, or set of problems, and for operating that home built model using the SPS software. Implicit in this system is the notion that models must be patterned to the specific decision problem.

Introduction to SPS, Technical Report 86 acquaints the user with: (1) the purpose of the SPS, (2) the typical internal calculations in an SPS design, and (3) the report preparation capabilities of the SPS, and (4) the NCHEMS implementation policy for the SPS.

SPS General Training Manual, Technical Report 87 contains the overheads used to support workshops and general training seminars on the SPS.

SPS In-State Training Manual, Technical Report 88 contains the overheads used in the training workshops conducted during implementation of the SPS.

Theoretical Concepts Used in SPS, Technical Report 90 discusses the mathematical theory related to the optimization capabilities of the SPS.

SPS Case Studies, Technical Report 91 describes the SPS implementation experience of several States. This includes documentation of specific design relationships for the SPS that deal with a specific policy issue or question. This discussion includes procedures for developing a design, information on coding a design for entry into the SPS, and examples of various designs.

SPS Data Procedures, Technical report 93 specifies procedures for locating and preparing data for input to the SPS, discusses the use of the SPS as a statistical tool for estimating parameter values as inputs to the SPS, and notes certain national data sources useful to SPS users.

SPS Software Installation Guide, Technical Report 94 contains the technical information necessary for the installation and checkout of the SPS on a new computer system. This includes information on the conversion that may be necessary in adapting the programs, copies of the test decks and the expected output, and a discussion of the software procedures necessary to run the SPS programs.

SPS Software Documentation, Technical Report 95 contains the programming conventions, flow charts, lists of variables, and computer program listings for the SPS.

SPS Operation Guide, Technical Report 96 discusses the general operating instructions for the SPS with an existing set of files, and the procedures for creating new data, design, and control files for use with a new design.

SPS Summary Operating Instructions, Technical Report 97 contains information about operating the SPS on a specific computer system for a specific State.

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Planning—Issues, Theory, Reference

Kent Halstead

* * *

Planning is the function of determining objectives and how they are to be accomplished. From an organizational viewpoint, planning is concerned with 1) setting goals and objectives; 2) forecasting the environment; and 3) determining the approach and methods to be used. Effectively employed, planning can be a primary and dynamic management tool for producing desired changes in an organization's direction, structure, and manner of operation.

Implicit in all the literature selected for this bibliography is that it is useful and valuable in planning. This section, under the broad title, "Planning," deals with the theory and practice of the process itself, together with related policy issues which direct and guide planning. Also included are futuristic studies and informative and statistical reference works which support planning. All of the materials are general works–composite volumes dealing extensively with planning functions, issues, or reference information. The subject matter of each volume is sufficiently broad in every instance to preclude including the work in a more specific topic area.

Issues and Policy Guidance. Planners provide background and analyses to policymakers and in turn are guided by resulting decisions. Inherent in planning, then, is the continuous study of issues and their resolution. As a whole, these volumes are important, although individual issues generally are not treated with sufficient detail or concentrated focus to warrant inclusion elsewhere within the bibliography. The many popular compendiums of essays in higher education are excluded from this bibliography; it is assumed readers can best select and judge these references for themselves. Entries within this subtopic are divided into general, State, and Federal-oriented issues and policies.

Theory and Practice. The breadth of planning is so all-encompassing that it is difficult to deal comprehensively with the subject. The few "texts" on statewide planning methodology and practice in higher education are included here together with various collections of contributed papers on planning which cannot be classified more specifically. Entries discuss various "how-to" planning techniques, problems planners encounter, and factors they should consider in planning. Several of the entries also deal briefly with how States can effectively organize and staff for planning.

Trends and Forecast. Recognition of current trends and perceptive insight into the future are complex, but necessary ingredients of planning. Too often planning is guided by past conditions and successes which may not apply in the future. As few studies in this important area have been conducted, entries may only marginally qualify as futuristic. However, they represent the current state-of-the-art.

Reference. This subtopic includes general references which provide planners with particular information. As reference works, the entries are comprehensive in scope, condensed in treatment, and arranged in order to facilitate ready access to information. Included are statistical compilations, projections, bibliographies, and directories, usually pertaining to the whole of higher education. Agencies and organizations which provide data and information services also are listed within this subtopic.

Planning and coordination are indispensably related and mutually supporting functions. Coordination, the more limited of the two, establishes effective interrelationships and concerted action, and is dealt with in a separate section (Topic 10; Governance and Coordination). Also included in Topic 10 are volumes dealing with how to organize systems of higher education and policies for governing systems–topics closely related to planning.

TOPIC ORGANIZATION

- 15: Planning–Issues, Theory, Reference
  - 1.0 Issues and Policy Guidance
    - 1.1 General
    - 1.2 State Role
    - 1.3 Federal Role
  - 2.0 Theory and Practice
  - 3.0 Trends and Forecasts
  - 4.0 Reference
    - 4.1 Statistics and Information
    - 4.2 Bibliography
    - 4.3 Directory
    - 4.4 Data and Information Sources and Services

1.0 ISSUES AND POLICY GUIDANCE

1.1 General

See also Topic 12: Institutional Role and Mission, for related issues.

15:1.1/77-1

Leadership for Higher Education: The Campus View, Roger W. Heyns, ed., 206 pp. (American Council on Education, Washington, D.C.).

This volume presents papers of campus leaders who share their practical experiences and their reflections about the role of leadership. The papers are short, about six pages, and organized under 11 topics, making it easy to select entries of special interest.

For reference use of this volume, the table of contents, exclusive of authors, is as follows:

1. On Becoming a Leader
   - The Presidency: A Personalist Manifesto
   - Cooperative Leadership
   - The President's Role
2. Making the Most of Faculty Leadership
   - Faculty Governance
   - Developing Faculty Leadership
   - Achieving Broad-Based Leadership

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3. Designing New Personnel Policies
    - Policies as Reflectors of Institutional Goals
    - New Policies for the Part-Time Faculty
    - New Policies for Changed Institutions
4. Encouraging Voluntary Support
    - Encouraging Private Support
    - The Future of Voluntary Donations
    - The College Endowment Funding Plan
5. New Obligations to Students
    - Institutional Response to Students' Rights
    - A New Focus for Administrators
6. Balancing Student Retention and Academic Standards
    - Accommodating the Nontraditional Student
    - The Salisbury Experience
7. Planning New Departures in Curricula
    - Effective Education for the Unprepared
    - Outward Forms of Inward Values
    - Curricula to Develop Conscience and Consciousness
8. Fitting Graduate Education to Society's Priorities
    - New Quality Ratings: A Force for Reform
    - Reassessing Graduate Education
    - Graduate Education as Liberal Education
9. Revising and Cutting Academic Programs
    - Doing Well and Less
    - Retrenchment: The Case at CUNY
    - Managing Under Depressed Funding
10. Responding to Federal Regulations
    - Implementing the Regulations
    - Educational Leadership or Institutional Reflex?
11. Influencing State Higher Education Policies
    - Making the Case for Higher Education
    - How to Work with State Legislatures
    - The Higher Education Climate: Separating Facts from Myths

15:1.1/77-2

Managing Turbulence and Change, New Directions for Higher Education, No. 19, John D. Millett, ed., 100 pp. (Jossey-Bass, San Francisco).

This collection of seven essays explores the demographic, economic, and social changes taking place or likely to take place in the next few years and their effect on academic planning. John D. Millett begins by examining the relationships among management, governance, and leadership in light of 10 forecasted changes. The list deserves brief itemization, for the following essays provide management and planning guidance responsive to the present and future environment: falling enrollment of traditional age groups, stable or declining demand for college graduates, reduced income growth, decline of the research university, greater integration of learning and work, increased concern with instructional outcomes, increased attention to general education, new emphasis on continuing professional education, greater attention to continuing general education, and pressure on institutional costs.

Stephen Dresch sees signs of deterioration in the competence of both students and faculty members which he interprets as a threat to the effectiveness of higher education. Dresch explains the effects of enrollment growth and changing age patterns on the structure and organization of colleges and universities. More debatable are his observations regarding possible declining levels of faculty quality.

Jack Freeman reviews current planning imperatives, trends, and problems, and suggests 12 principles to guide responsive planning. His first principle–effective planning requires strong executive leadership and commitment–is dominant and if observed would likely assimilate others.

Ronald Roskens and Herbert Garfinkel describe five trends that affect planning in the metropolitan environment: urban blight–white flight, suburban sprawl, "we want in," changed idea of relevance, and the post-industrial society. They then look at specific ways in which the university should respond.

In his essay titled "The New Clothes of Liberal Education," Robert Sandin describes the poverty of general education in terms of a thinning and flattening of the curriculum, failures to achieve a common principle of organization which brings unity out of the parts of education, declining enrollments, departmental rivalries, and failure to establish relevance of general education for society. He advocates new models, consistent with traditional ideals yet suited to present realities.

Two short essays conclude the volume, the first by Sherman Jones discusses faculty involvement in college and university decisionmaking: the second, by Millett, describes some alternative missions for higher education in a future environment.

15:1.1/75-1

Formulating Policy in Postsecondary Education: The Search for Alternatives, John F. Hughes and Olive Mills, eds., 338 pp. (American Council on Education, Washington, D.C.).

As the last quarter of this century begins, diverse and complex problems and issues are being experienced and anticipated for postsecondary education, and the time for comprehensive review of circumstances and policy options is at hand. In one such attempt, the American Council on Education dedicated its 57th Annual Meeting (1974), to "the search for alternatives." The individual papers, perceptive and insightful as they are, often fail to address the theme of "alternatives" and remain isolated elements, even though their combined value is enhanced by organization into 10 topic areas. More distinctive contributions by the authors would have provided the comprehensive coverage and focus on *options* sought. Despite these shortcomings, the papers present much good advice for immediate and long-range policy formulation and decisionmaking.

Strategies for improving higher education management deal with administration of equal employment opportunity laws, the implications faculty unionism has for institutional management, and how the common law may plausibly affect faculty-administration relations in circumstances of financial exigency. Papers on creative management deal with the task of reconciling contradictions, factoring the concept, and management as a political process. In planning for the steady-state, commentary is made on the low-growth, high-inflation situation, required management talents, and faculty resource management.

Three topics address alternatives for financing higher education. With regard to policy, contributors discuss current issues in fund raising, the health and distress of institutional finances, and solutions to the deteriorating financial position of private institutions. They also study tuition in terms of the education market and the need for a national cost adjustment factor for higher education. In examining student aid, one writer concludes that the central objective of providing balanced financial sustenance for needy students is far from being achieved. Other contributors discuss the congressional strategy with regard to Title IV Federal student assistance programs, grants for students based on their own income, and differentiated aid programs for today's "emancipated" students.

The third part of the volume addresses strategies for improving programs in higher education. Major topics are: nontraditional programs, statewide planning, credentialing of experience, and instructional delivery system. In the final part four contributors speak to policy issues in education–public policy for a pluralistic system of higher education, student assistance and civil rights (as viewed by a Congressman), the search for alternatives, and the Administration's position.

15:1.1/75-2

Sponsored Research of the Carnegie Commission on Higher Education, Carnegie Commission on Higher Education, 397 pp. (McGraw-Hill Book Co., New York).

During the six years of its existence, the Carnegie Commission on Higher Education made one of the most comprehensive studies of colleges and universities ever attempted. To achieve appropriate coverage of the broad subject areas under surveillance and to provide the fact-gathering and policy-oriented data and analysis necessary for its findings, the Commission encouraged and sponsored a great amount of research. Over 100 authorities and experienced observers were asked to bring their professional knowledge and experience to bear on subjects selected largely by the Commission. Their efforts yielded not only an 8-foot shelf of writings, but a valuable digest of sponsored research reports, independent studies, and essays.

The Commission identified a number of priorities as vital both to the future of higher education and the purposes of our society. These priorities serve as the major sectional headings in this volume: Looking at the System, Diversity and Increasing Options, Preparing for the Future, Social Justice, Service to Society, Quality, and Strengthening the Institutions.

The abstracts are intentionally brief, three to four pages in length. But this compilation will serve both those persons who wish to know the central ideas and analytical approaches of individual contributors, and those who wish to have a broad overview of the Commission's research. It is a logical companion, therefore, to *A Digest of Reports of the Carnegie Commission on Higher Education,* which was published early in 1974.

15:1.1/74-1

The Carnegie Commission on Higher Education: A Critical Analysis of the Reports and Recommendations, Lewis B. Mayhew, 441 pp. (Jossey-Bass, San Francisco).

Summing up his feelings after having read and attempted to digest all the printed studies, reports, and policy statements of the Carnegie Commission, Lewis Mayhew refers to the 1971 TV commercial of the uncomfortable man who, having completed an uncommonly large meal, says "I can't believe I ate the whole thing!" He had several reasons for his gigantic effort. He designed each of the chapters in the book "... to epitomize one of the publications of the Commission in sufficient detail that the substance can be used safely by a reader who has never examined the original report." In addition to this summary of main points, Professor Mayhew critiques the reports, trying to "gauge the real or potential impact of the work of the Commission on the nature, structure, functioning, and significance of American higher education." More than 50 documents ranging from relatively few pages to almost a thousand pages are compressed in this single volume.

The survey is organized into 10 chapters. The first and last, "Context and Themes" and "Significance and Impact," are editorials. In the first chapter, Mayhew reviews the history of national efforts to study higher education and the manner in which the Carnegie Commission represents the most comprehensive organized attempt ever made to portray the condition of higher education, to analyze its components, and to indicate probable and desirable directions for future development. More importantly, he identifies the Commission's central themes such as belief in the validity of traditional values and techniques of education, and a real but cautious egalitarianism that justifies Federal involvement in higher education to ensure that minority and disadvantaged groups are provided equal access. In the last chapter Mayhew attempts to gauge the impact of the Carnegie Commission's work, specifically various detailed policy recommendations. Although it is too early to make definitive statements as to the impact the full effort has had on the course of higher education, Mayhew has interesting commentary on the availability and use of the reports by faculty and key administrative officers. While boards of trustees ". . . were interested in particular recommendations they did not reveal deep awareness of the provisions of any of the reports." This lack of detailed knowledge is probably commonplace and suggests the value of Mayhew's volume as well as the three summary volumes issued by the Commission.

In chapter 2, "Policy Statements," the 21 Commission reports are critically reviewed, beginning with a capsule summary of the major themes and various policy postures. The remaining chapters critically survey the sponsored research of the Carnegie Commission under the titles: Types and Examples of Institutions, Organization and Governance, Reflections on Higher Education, Education for the Professions, Financing Higher Education, General Reports, and Future Trends. The digest of each study, comprising five to seven pages, presents main observations, evaluates them in the light of generally available knowledge about higher education, and suggests implications. Few surpass Mayhew's ability to glean so much substance in such a survey.

15:1.1/74-2

A Digest of Reports of the Carnegie Commission on Higher Education. Carnegie Commission on Higher Education, 399 pp. (McGraw-Hill Book Co., New York).

This publication makes available digests of the 21 reports the Commission itself has issued from 1968 through 1973. Typically, these reports have presented information and analysis in some detail and have included specific recommendations or objectives. The digests, each about 10 pages, concentrate on general trends and conclusions, necessarily skipping the supporting analysis and documentation that make the Commission studies so rigorous and convincing. The summaries are excellent, however, and should encourage consultation of the full reports.

The Commission's recommendations are arranged in two ways. First, the fully stated recommendations are organized according to the persons, agencies, and institutions most directly affected by them and most likely to be able to implement them. The Commission cautions, however, that action on many of the recommendations requires the concerted efforts of many different people. Second, the recommendations, in abbreviated form, are indexed by nearly 150 subject headings.

See also the final report of the Carnegie Commission, *Priorities for Action*, 15:1.1/73-2.

15:1.1/74-3

Higher Education and the Steady State, ERIC/Higher Education Research Report No. 4, Larry L. Leslie and Howard F. Miller, Jr., 58 pp. (American Association for Higher Education, Washington, D.C.).

This paper discusses the no-growth or steady state into which we appear to be entering and its implications for higher education. The overview quoted below describes the contents succinctly:

> Chapter 2 defines the steady state, tells what is commonly meant by the phrase and demonstrates that it is already largely a reality. This chapter shows that whether enrollments or institutional income is the criterion, no growth is an appropriate descriptor. Chapter 3 places the no-growth phenomenon in its broader perspective. Provided here is a means for viewing present enrollment trends in an historical light. From this vantage point, it can be observed readily that there have been other such lulls in higher education enrollments, but that the general pattern over time has been one of constant growth. From this historical view, the genesis of a theoretical concept emerges. Further clues for this concept are taken from economic theory. The theoretical concept that emerges in Chapter 3 is labeled transverse progression: the concept that, *overall*, growth must continue to occur in essential social systems so long as the society itself continues to progress, as opposed to decay. At the beginning of Chapter 4 there emerges from this concept a framework for analyzing how an essential social system, such as higher education, is able to right itself in a period of decline and once again begin to show growth. This analytic framework is the structure for examining what will occur in higher education as enrollments decline, that is, as innovations are produced in attempts to reverse the downward

enrollment trend. The five categories of the framework, or kinds of innovations, derive from Schumpeter's *Theory of Economic Development.* They are (1) the introduction of new products, (2) the introduction of new production methods, (3) the opening of new markets, (4) the employment of new supplies of productive factors, and (5) the reorganization of the enterprise. Utilizing this framework, Chapter 4 presents the heart of the paper–those facets of higher education that are likely to be affected in the steady-state era, and how. This chapter is sub-divided into sections corresponding to the five elements of the framework, i.e., the five ways institutions can and will respond to declining enrollments and the five areas of activity and concern within higher education during this period of readjustment. Chapter 5 concludes with a brief summary, three caveats, and some forecasts as to how higher education will fare in its attempts to maintain a constant growth, a "dynamic equilibrium." It is shown that institutions will seek to grow in new as well as traditional ways and that ultimately efforts will be aimed at qualitative as well as quantitative growth.

15:1.1/73-1

Goals for Higher Education: Definitions and Directions, ERIC/Higher Education Research Report No. 6, David A. Trivett, 61 pp. (American Association for Higher Education, Washington, D.C.).

In 1973 the National Commission on the Financing of Postsecondary Education asked the Educational Resources Information Center (ERIC) Clearinghouse on Higher Education for a summary of higher education goals. Concluding that the concise statement sought by the Commission did not reside in any single report or survey, ERIC responded with this paper.

The concept of goals is defined initially and includes the following working definition: "Goals can be defined as desirable conditions sought, expressed in broad, qualitative terms, representing conditions that may be only partially attainable. They are distinguished from objectives, which represent specific ends that may serve as measuring points for progress toward goals."

Next, several historical statements of goals are presented, focusing especially on the Truman Commission's *Higher Education for American Democracy.* Goal statements promulgated by several State departments of higher education are given and compared. Recent task force documents, such as the Newman report and Carnegie Commission studies, then are surveyed and appraised. The penultimate chapter examines three international documents that set some unusually value-centered goals for their respective countries. Finally, some speculative conclusions are offered about current and future goals for higher education.

Certainly the most singularly creative background established for developing goals is that found in *A Future of Choices* by the Commission on Educational Planning of the Alberta Cabinet Committee on Education. The volume's underlying framework of abstractions represents the goals the Commission pursues. The framework begins with four basic ideals which are proposed in order to generate answers to questions such as, "What is to be our vision for education in Alberta?":

1. A *future-perspective* that embodies the belief that we must alter the time-bias in education toward the future;
2. *life-long learning*, a commitment to extend education on a continuing, though intermittent, basis throughout the lifetimes of each citizen, according to individual needs and desires;
3. faith in *participatory planning* to harness the resources and will of Albertans so that the difficulties inherent in this educational transition may be surmounted;
4. development of socially sensitive, *autonomous individuals* and unequivocal support for their right to exist in an environment that will encourage personal growth to the fullest extent of their capabilities.

In addition to the four ideals, the Commission reports 10 "Guiding Principles," which are the characteristics of a desirable education system as thev were articulated by Albertans in hearings and presentations to the Commission:

1) The educational system should be adaptable; 2) Educational experiences should be relevant to both current realities and future probabilities; 3) Various aspects of the educational enterprise should coordinate with each other and with other aspects of society; 4) Diversity in educational experiences and organization should be encouraged; 5) The educational system should achieve maximum efficiency with minimum effort and expense; 6) Education should be available on a just and fair basis with equality of output or similarity in achievement and effect; 7) All those affected should determine the policy for education; 8) Educational activities should be related to the needs, aspirations and rights of the individual; 9) The educational system should strive for excellence in everything that is undertaken; 10) Education should facilitate human communication and social integration necessary for collective action to sustain personal growth.

15:1.1/73-2

Priorities for Action: Final Report of the Carnegie Commission on Higher Education, Carnegie Commission on Higher Education, 243 pp. (McGraw-Hill Book Co., New York).

Established in 1967, the Carnegie Commission on Higher Education issued 21 special reports in its 5-year study of higher education. From the hundreds of suggestions and recommendations made by the Commission, this final report selects a few key priorities as a framework for its summation. They are: clarification of purposes, preservation and enhancement of quality and diversity, advancement of social justice, enhancement of constructive change, achievement of more effective governance, and assurance of resources and their more effective use. The priorities for action chosen by the Commission are those they believe to be of greatest importance for the foreseeable future and that merit their costs.

The Commission recognizes some unwise directions taken by colleges and universities; e.g., lowering of teaching standards and processing many graduates without regard to the needs of society, and urges the higher education community to convene for a basic discussion of purposes. They believe there should be some new aspirations, some new visions. The Commission's own suggestions for the purpose of higher education–to evaluate society for the benefit of its self-renewal–appears a response to this new direction.

The Commission sees the steady state of enrollment as an opportunity for emphasis on quality and makes recommendations in the areas of research, teaching, curriculum reform, campus environment, service, unique institutions, effective size, and academic standards. Of most importance to faculty and students is the Commission's recommendation that "there should be equal reward for teaching as for research, except for research at the highest levels of competence."

Thomas Jefferson recognized that education could "bring into action that mass of talents which lies buried in poverty in every country." This aspiration has not been realized. The Commission provides statistics showing underrepresentation of minorities at all levels of higher education. The steps recommended to extend opportunity are to create enough *open-access places*, to improve old and create *new alternative channels of life and work*, to *finance student costs, adjust* the postsecondary system *to accommodate students from a wider variety of backgrounds*, and *to recruit into faculty and administrative positions more women and more members of minority groups.*

The Commission lists forces for and against change, recommends that higher education should take the initiative in determining its own future, and then lists various forms in which constructive change might take place in the areas of student educational options, institutional diversity, and educational enrichment. The Commission also advances a warning, "The most important single issue about change, is whether it will come primarily from internal leadership or whether it will be imposed more totally from external sources."

New shocks are in store for the governance of higher education resulting from collective bargaining, politicalization, resurgence of student activism, and the glacial spread of public control. The Commission believes that higher education is inherently difficult to govern but believes the present structures are adequate. Rather than any basic reform the Commission favors improvements in 13 areas. The recommendations include the encouragement of the States to use broad instruments for coordination, the preservation of strong and independent boards of trustees, the delegation of basic influence over academic matters to faculties, and the greater involvement of students, e.g., by serving as voting members of selected committees.

The Commission advocates a 2-pronged search for better use of resources and augmentation of resources. Major ways of holding down costs are summarized and suggestions listed on how to increase income through Federal, State, tuition, and philanthropic sources.

The most difficult to follow of the Commission's precepts is that in order to obtain greater public support, higher education must demonstrate to the satisfaction of the public that its purposes are *essential* (emphasis added). "Not only has higher education lost a degree of public support in recent years, but it is now in a more competitive position vis-à-vis other national priorities."

The Commission concludes with specific recommendations for action from the States, the Federal Government, colleges and universities, parents, students, and employers. References, technical notes, and appendix tables and charts occupy over half the volume.

15:1.1/71

Report on Higher Education, Frank Newman, et al., U.S. Department of Health, Education, and Welfare, Office of Education, 130 pp. (U.S. Government Printing Office, Washington, D.C.).

The descriptive and analytical portions of this 1971 report are now well known by observers of higher education. Much of the work done by the Newman Task Force has been subsequently studied in greater detail by the Carnegie Commission. The Task Force's approach was unique in examining the inadequacies of the higher education system in the light of the needs of society and the diversity of students entering college. The Task Force's recommendations on how the system can better match public interests therefore remain significant guides.

The Task Force was disturbed by trends toward uniformity in our institutions, growing bureaucracy, overemphasis on academic credentials, isolation of students and faculty from the world–in general, a growing rigidity and uniformity of structure that made higher education reflect less and less the interests of society. Their advice was to seek through an intensive national effort new forms of learning and new institutions, in effect, alternative paths to an education.

The suggested new directions are:

1) Create conditions under which new educational enterprises can be founded and can endure. The new enterprises might take the form of a single specialized mission, use of an educational format other than the classroom lecture, employment of diversified faculty, acceptance of experience as a legitimate part of formal education, or use of a different concept of what constitutes a campus.
2) Establish specific funding programs to encourage these new enterprises.
3) Change the composition of established accrediting organizations to include representatives of the public interest; and reduce the reliance by Federal and State governments on these established organizations for determining eligibility for Federal support.
4) Improve the attractiveness of careers in higher education to secure energetic, imaginative individuals who are capable of reform and innovation.
5) Halt the academic lockstep and reconstitute admission standards, transfers, and attendance patterns so as to accommodate diverse student interests and needs.
6) Establish new resources for off-campus education in communities so that individuals and groups can find their own way to an education.
7) Develop equivalency examinations so that individuals can receive credit for skills and knowledge acquired in a variety of ways. Further it is proposed that new degree-granting institutions be established which could not only administer these examinations but also grant degrees.
8) Establish regional television colleges whose mission would be to develop and provide higher education through the medium of television. In conjunction with these resources, encourage the development of tutorial "faculty" and learning "clinics" of colleges organized to provide specialized services and pool resources.
9) Create conditions that encourage maximum initiative at the

individual campus, in directions leading toward publicly established objectives.

10) Revise the organizational structure of higher education systems in order to provide the greatest opportunity for on-campus leadership, and to minimize the interference of political bodies with detailed operations.

11) Increase the use by State governments of the project grant method of funding to encourage responsiveness to changing problems in society. Also State and Federal governments should provide funds to institutions in the form of grants that accompany certain categories of students.

12) Expand the opportunities for young people to engage in meaningful tasks outside college.

13) Diversify the faculty by leavening with practitioners who are outstanding in their jobs.

14) More effectively meet the specific needs of minority students and achieve equity for women.

15) Strengthen and differentiate the missions of our higher education institutions by courses of action proposed.

1.2 State Role

See also Topic 10: Governance and Coordination, for role of State from these two aspects.

15:1.2/77

The Added Dimension: State and Land-Grant Universities Serving State and Local Government, Ione Phillips, 96 pp. (National Association of State Universities and Land-Grant Colleges, Washington, D.C.).

Founded by public initiative and with public funds, the educational mission of State universities and land-grant colleges has always been broader than that of other types of higher education institutions. Public service has been and continues to be the added dimension. Despite this inherent responsibility and the growing needs among citizens and State governments for public services of an educational nature, the leadership and liaison required for effective interaction has not been developed. In order to more clearly understand and thereby encourage what universities are doing to assist government, the National Association of State Universities and Land-Grant Colleges (NASULGC) conducted a survey of member universities. This publication deals with results of the survey as well as an overview of State and land-grant university public service activities geared toward government needs. It features, in addition, a number of in-depth descriptions of some of the more extensive programs underway across the country.

In looking at the problems in building communication channels between government officials and their public universities, five major problems are identified: (1) organizational difficulties in securing scholars' cooperation, (2) incentives for faculty to participate, (3) understaffing of existing information transferring organizations, (4) incongruency between crisis-oriented needs of legislators and long-range research of universities, and (5) unavailability of funding. Money problems, as in most other instances, far outstripped any other factor as a primary barrier, according to the survey participants.

Based on survey results, news releases from universities, and personal interviews, the types of services which universities seem to be providing most effectively for government include: publication of special reports on topical issues; sponsorship of seminars, workshops and short courses for government officials; development of evaluation tools for use by various units of government in assessing their services; publication of business and economic reports dealing heavily with the effect of various factors on the State's economy; and contract research on topics specified by governmental units.

A short chapter describes the size and scope of technical service units at institutions responding to the NASULGC survey. Subjects covered include the budget range of service units, staff size, types of services, the critical role of contract research, State obligations, solving specific problems, seminars and training programs. Three chapters study in some detail the successful service operations of Tennessee's Institute of Public Service, the Pennsylvania Technical Assistance Program of the Pennsylvania State University, and five universities that provided technical services through a school or college as an adjunct to student education. The programs of these institutions can serve as models for States which are looking for guidance in developing effective Government service programs.

15:1.2/76-1

Information and Analysis in the Context of Institutional-State Relationships: The Tie that Divides Us, William Johnston, ed., Proceedings of the 1976 National Assembly, 133 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

This volume contains the views of a diversified group of spokesmen on the use and value of information and analysis in strengthening communication between institutions of higher education and State governments. Ten papers are presented, starting with the State's perspective as seen by Richard Lamm, Governor of Colorado, and ending with Martin Kramer's views on the role of the Federal Government–the third party to institutional-State relationships.

Governor Lamm charges higher education with the task of providing much of the creativity which this society will need to survive in the years ahead. The people, he says, create "universities and colleges not primarily for the purpose of taking action, . . . but for searching and promoting truth through the fair combat of ideas." John Oswald, president of Pennsylvania State University, continues this theme by arguing that the State's *first* responsibility to institutions of higher education is "to preserve, nurture, and promote those human resources of intellect which will benefit the human condition, both of society and of the individual." Both leaders advocate lofty ideals, yet the education community remains marginally committed and less than fully productive in searching for truth that benefits the human condition. Oswald believes part of the blame remains with the State which has failed to find out *what* is going on and *how much* is going on and its commensurate *value*.

Harold Hodgkinson presents some selected demographic trends with implication to higher education planning: the decline in the 18-24 year-old population after 1980, net decline in family income among minority groups in comparison with white income since 1971, the increasingly early sexual maturity of females, and the decline in public confidence in American institutions. He then looks at the issue of credentials and observes that if they continue to be based on grades and grades are not functionally relevant to success in American life, then planners have a very real problem.

In discussing the mission, role, and scope of community and junior colleges, Edmund Gleazer talks enthusiastically about an expanding interest in providing educational opportunities and services which will require new descriptors, a new terminology, and an adaptive structure. He states that the needs of society for energy, transportation, lower crime rates, improved health service, adequate food supply, clean air and water, etc., have educational components which, if properly addressed, can in time reduce the dollar requirement for the problem area.

Three members of NCHEMS, John Chaney, Ben Lawrence, and Melvin Orwig, begin the section on information and analysis in the context of institutional-State relationships, with a discussion of philosophical-jurisdictional issues, operational issues, and technical issues. They believe that a more definitive, causative relationship will develop between information supplied and policy formulated and implemented. In time this will encourage greater cooperation between State-level agencies and institutions in shaping information needs.

In discussing the quest for increased productivity, John Keller brings our attention to an important volume, *Measuring and Increasing Academic*

Productivity, edited by Bob Wallhaus. In describing the difficulties involved in relating the value of outputs to inputs, he uses some everyday experience analogies to assist planners in developing the type of thought processes required in analyzing alternative marginal expenditures so as to maximize cost-effectiveness.

In 1965 President Lyndon Johnson announced that the United States Government was adopting program budgeting. In 1971, that order was quietly discontinued. George Weathersby discusses the potentials of analytical approaches to educational planning and decisionmaking, saying that it is very difficult to identify and to document different decisions that have been made primarily on the basis of analysis. From his personal experience he knows of no systematic study of the types and sources of information used by key legislators or members of governing boards in reaching their decisions.

Morgan Odell presents a 7-point agenda with regard to the kinds of information about independent colleges that the States need to have, but he cautions that the independents are already accountable in many ways and should not be made to reveal certain types of institutional information.

Two short papers conclude the volume. The first, by Donald McNeil discusses the function, responsibilities, and information requirements of statewide agencies, and lastly Martin Kramer focuses on the Federal Government as the third party to institutional-State relationships.

15:1.2/76-2

The States and Higher Education: A Proud Past and a Vital Future, and commentary **Supplement**, Carnegie Foundation for the Advancement of Teaching, 94 and 66 pp. (Jossey-Bass, San Francisco).

In examining the complex interrelations between the States and higher education, this relatively short commentary by the Carnegie Foundation will challenge State officials to absorb and respond to the numerous and comprehensive observations and recommendations made. The *Supplement*, providing more descriptive detail, is slower paced, but both volumes still require methodical reading and analysis for maximum value. State ranking measurements accompany most observations, which, for at least the lower ranking States, establish the reality of disparities and should prompt remedial action.

After brief recognition that "higher education in the United States . . . has been comparatively effective in both quantitative and qualitative terms," the Carnegie Foundation quickly points out the major problem areas. Despite the great expansion of the 1960's, some surplus facilities in teacher-training and Ph.D. output still remain, relative to the current level of effective demand. There is greater imbalance, however, in the deficiencies that remain in some States which have failed to provide a well-rounded system. These deficits are in open access spaces, State scholarship programs, area health education centers, and health science centers.

The Foundation expresses doubt that some States have both the capacity and the desire to undertake improvements in higher education. A new index of State fiscal capacity is presented which combines, on an equal weighting basis, the influences of per capita income, unemployment, and the degree to which tax resources have already been utilized. Tax capacity is an important attribute in appraising State financing of education and the Foundation's measurements should be evaluated in comparison with other efforts based on different approaches, e.g., see 9:6.0/78.

The Foundation sees five major problems which lie ahead: (1) how to maintain dynamism without growth, (2) how to avoid parochialism as the individual States become a greater source of funds and policy, (3) how to support the private sector while maintaining its independence, (4) how to get accountability by higher education without stifling it with detailed regulation, and (5) how to balance the public interest against the need for institutional autonomy in academic areas of decisionmaking. Recommendations are made in each of these areas and later sections of the report provide descriptions of current patterns and observations.

The supplement contains a great deal of useful descriptive information about the States and higher education. Statistical information about support of higher education is presented for all fifty States. Proposals to define institutional State relationships and responsibilities are summarized. In addition, the supplement contains organization charts for 10 States and descriptions of the relation of 1202 Commissions to other State boards.

15:1.2/75

Education and the State, John F. Hughes, ed., 275 pp. (American Council on Education, Washington, D.C.).

Under the rather loose rubric of "Education and the State" this collection of 11 papers and additional associated commentaries are organized under four themes: education goals and their financing, equalizing educational justice, management and governance in higher education, and educational reform and innovation. Many of the papers deal with the findings of the Carnegie Commission on Higher Education and were written by contributors to the Commission's reports themselves.

The less formal commentaries frequently appear more creative than the papers. For example, Laura Bornholdt reminds us that John Rawls and Christopher Jencks would challenge the starting point of both initial papers by insisting that setting goals for higher education should not be attempted without setting some intermeshing goals for changing society itself. Another example is Harold Enarson taking exception to the assertion that a continued shift in the share of enrollment to the advantage of the public sector is somehow *bad*. The response of most commentators, however, is positive and supplementary. Robert Hartmen, for example, recognizes the paper by Allan Cartter and the longer Carnegie Commission report which it summarizes as, " . . . the most lucid and comprehensive game plan for higher education that we have," then proceeds with "friendly criticism."

In other areas, Virginia Smith summarizes the problems of coordination among postsecondary institutions to meet the needs of metropolitan constituencies, especially governmental units and agencies. Suggestions are offered to help colleges define and achieve their urban mission, with primary attention given to established institutions–public and private–in downtown and near-downtown areas of our larger and older cities and metropolitan areas. Earl Cheit gives thorough and comprehensive treatment to the "system" approach to the management of higher education with an informative summary of both the intended and *unintended* consequences of management systems. James Perkins develops persuasively the thesis that it is difficult to coordinate decisions between the university and the government because no effective decisionmaking process exists within either. But Ernest Boyer responds that Perkins' analysis also bespeaks lack of leadership as well as coordination and suggests that the central problem rather than being, "How can we coordinate?" is, "Is anybody in charge?"

The other papers on government strategies for educational reform and innovation, the faculty and the government, and legislative attitudes are also excellent. One wishes only that the essence of each work could be abstracted from the extended rhetoric (somehow believed necessary for public presentation) and made more widely available in condensed form.

15:1.2/71

The Capitol and the Campus: State Responsibility for Postsecondary Education, Carnegie Commission on Higher Education, 156 pp. (McGraw-Hill Book Co., New York).

As with so many Carnegie Reports, this one on State responsibilities for planning and providing higher education is packed with information. The book deals mainly with the State's role in providing postsecondary education to its citizens. The chapters are short and tightly written; summary listings are used in some instances as an effective substitute for what would likely be a longer narrative text. The chapters deal with the following: the goal and the issues, nature of State responsibility, the Governor-legislature and higher education coordination and planning, comparison of State effort, the State and the non-resident student, the State and private institutions, public and private tuition levels, public funds for private higher education, public accountability and institutional independence, and conclusions. Student resident and migration data and State financing statistics appear in the appendices.

While it has been several years since the Commission's recommendations have been published, most are still relevant and States should heed them, particularly those States which are singled out as failing to meet minimum standards. The Commission recommends that more States follow Wisconsin and Florida in making special grants to private institutions in support of medical and other professional schools. The Commission proposed that approximately one third of the cost of educating a student at a State institution be awarded to a student choosing to attend a private college. The issue of accountability in relation to both public and private institutions is also discussed and the report makes a case for institutional independence and autonomy and suggests guidelines for achieving them.

Of particular importance is the Commission's concern with the growing dominance of governors over higher education in several States and the development of heavy-handed regulatory councils. Also, States will want to take a closer look at their financial support status as indelibly spelled out in the Commission's rankings. For most States, the record shows little improvement.

A number of appendices provide a wealth of data relating to the subjects covered in the study.

15:1.2/70

State Officials and Higher Education: A Survey of the Opinions and Expectations of Policy Makers in Nine States, Heinz Eulau and Harold Quinley, Carnegie Commission on Higher Education, 209 pp. (McGraw-Hill Book Co., New York).

This survey concerns the manner in which "legislators and certain State executive officials perceived the problems and issues of higher education, their attitudes toward various aspects of higher education and their expectations of future development." The selected States include five with complex educational systems–California, Texas, Illinois, New York, and Pennsylvania–and four with less complex systems–Iowa, Kansas, Kentucky, and Louisiana. Those interviewed were State executives and legislators and staff members most intimately connected with legislation or appropriations for higher education. The survey consists of the respondents' views, with the authors giving only occasional appraisal and evaluation. The respondents' opinions are organized into nine topics: Prospects and Problems, Information Pressures, Control and Oversight in Higher Education, Financing Higher Education, Legislators and Academicians, The Junior College Phenomenon, Student Unrest: Causes and Cures, The University and Society, and Planning the Future.

Most officials, it appears, thought "things" had been going well in their States, and each compared his own State's educational system favorably with those in other States. This is a natural and expected response from leaders charged with responsibility for their State's educational progress, but it is also clear, from the range of achievements among States for a variety of quality indicators, that too few rigorous comparisons were being made. A number of California respondents agreed that their State was losing ground to New York. However, few States with less favorable environments expressed the kind of dissatisfaction that might be expected from a lower ranking status.

Often of key importance in a State's success was the idiosyncratic influence of personality. In a number of States an energetic and capable Governor was credited with large-scale innovations and improvements in higher education. In at least one other State, a Governor had emerged who was trying to reduce the university's budget and influence.

Positive appraisals typically were expressed in terms of increased appropriations. However, real progress is ill-defined by total dollar increases and knowledgeable legislators might have been less enthusiastic if aware of the eroding effects of inflation and enrollment on increasing funding. This illustrates one pervasive dilemma mentioned by legislators—a lack of relevant information about their colleges and universities, and in many cases, not so much the absence of knowledge as incomplete or inaccurate information. Most respondents indicated, however, that the public did not demand much information from them on higher education and that the subject had low political salience.

1. 3 Federal Role

15:1.3/78

Government Regulation of Higher Education, Walter C. Hobbs, ed., 128 pp. (Ballinger Publishing Co., Cambridge, Mass.).

This book examines the development of government regulation of higher education from the perspectives of the legal scholar, the university president, the university lawyer, the government lawyer, the university Affirmative Action officer, the professional association's watch-dog of government activity, and the statesman-scholar of higher education.

There are two sides to every question and the essays respond with what is good and what is poor in government regulation of academe. More particularly, the issues of interest are debated as framed by such questions as: "What are the regulatory agencies seeking to accomplish? Is that legitimate? Is it wise? How are they going about their tasks, i.e., what are their methods, and what is their competence? What are the probable consequences to academe? And what is, what can be and what should be higher education's response?"

In the introductory chapter, Hobbs describes the long history of law's involvement in academic affairs and outlines the theory of the most recent expression of legal intervention, the regulatory process. Robben W. Fleming, a labor lawyer as well as president of the University of Michigan, finds a major tension in the inevitability of government regulation vis-à-vis the enormously complex diversity of U.S. higher education. However, he suggests reason for hope in the possibility of self-regulatory systems in colleges and universities, coupled with incentives to institutions to develop effective dispute-resolution procedures that would diminish the necessity of government regulation.

Ernest Gellhorn and Barry B. Boyer, students of administrative law and practicing academic administrators, provide a detailed review of the major elements of the regulatory process as applied to academe. They believe that a right spirit will find opportunity as well as threat in the regulatory process. In the concluding essay, Stephen K. Bailey agrees that a government must strike a balance between constraints that would cripple higher education's critical social function and a deference that would lead to unjustified license.

Estelle A. Fishbein and Robert L. Ketter clearly disagree. Neither is persuaded that government regulation, especially as it is presently enforced, is either wise or necessary in higher education. Fishbein, general counsel to a major private university, believes the disruptive effects of government procedural requirements alone would be disturbing enough, but the suppressive effect of government involvement in the exercise of intellectual judgment has, in her view, worked inordinate damage to the nation's colleges and universities. Ketter, president of a major State university, catalogs a lengthy series of detriments which he suggests government regulation visits upon academe.

Alfred D. Sumberg, watch-dog of government action on behalf of the American Association of University Professors (AAUP), returns the discussion to more conciliatory tones; addressing the regulatory issue from the perspective of its implications for the academic occupation. Sheila Tobias, however, on grounds of her experience as Affirmative Action officer in a private university, submits that government regulation is neither necessary nor sufficient to achieve the results which Sumberg endorses. Donald H. Wollett, however, director of a government agency which negotiates labor agreements with unions of State employees, argues that the professoriate has a remarkable capacity to withstand pressure, and he sees little reason to believe that its experience with government regulation will yield contrary results.

Evidently interpretation of the consequences of the interplay of government regulation and higher education depends in large part on where the observer is standing. As Patrick Moynihan observed, "The issues are undeniably political, and they will not be so much resolved as accommodated through familiar political process."

An additional issue of government involvement in higher education is the cost to institutions of administering Federal programs. The study by Carol Van Alstyne and Sharon Coldren, *The Costs of Implementing Federally Mandated Social Programs at Colleges and Universities*, (1976), 62 pp. (American Council on Education), establishes costs related to employment–such as social security taxes–and compliance with equal employment opportunity laws as contributing most to the burden. In 1974-75, the average costs to six institutions surveyed of implementing Federal programs were small (1 to 4 percent) relative to total institutional operating budgets. However, these costs increased rapidly as new programs were added over the 1965-75 level, and they are expected to go higher.

15:1.3/77

The Impact of Federal Policies on Higher Education Institutions, Arthur T. Grant, ed., 66 pp. (Higher Education Program, College of Education, University of Arizona, Tucson).

Aware of the changes in the direction and amount of Federal influence on higher education, the Education Commission of the States and the College of Education at the University of Arizona cosponsored a conference to examine the impact of Federal policies on the operations of colleges and universities. This book contains the seven papers presented.

In the first essay, Ralph Huitt, Executive Director, National Association of State Universities and Land-Grant Colleges, reminds educators that to secure changes in Federal policy they must work with subcommittees, and even more productively, with the most important people on them. He then cites the famous "Education Amendments of 1972," which passed unanimously in the subcommittee, the full committee, and the Senate. Huitt points out that it is no secret that only the chairman, a few colleagues, and staff knew much of what the bill contained.

Homer Durham, former Commissioner of Higher Education for the State of Utah, is concerned that the expanding Federal-State "partnership" in higher education will result in "more and more regulation to the end that universities and colleges are now among the most highly regulated industries in our national life." He advocates that State systems should rally to serve essential institutional autonomy and press, on behalf of all, to redress the recent tendencies of the "Federal impact."

"The greatest danger of external control is that it erodes institutional governance and institutional decisionmaking to the point where this responsiveness is stifled." Allan Ostar, Executive Director, American

Association of State Colleges and Universities, believes that the trend toward external control must and can be reversed, and cites ways in which this can be accomplished.

In the fourth essay, Louis Bender, Professor of Higher Education, Florida State University, gives a brief overview of the problems of Federal regulations, a chronology of the evolution of the Federal presence, and then an analysis of the impact Federal regulations have on contemporary colleges and universities. He concludes with some excellent recommendations–a Magna Carta for Higher Education, a more unified effort by the national associations, various regulation reforms, development of an economic impact statement, establishment of an American Council on Education task force to study the Federal organization appropriate for dealing with higher education, and support for an Institute for the Preservation of Independence of Higher Education.

Warren Hill, Executive Director, Education Commission of the States, makes eight suggestions how Federal policies can be used more effectively. One recommendation, that of encouraging the "feds" to stop treating all States alike, would greatly reduce Federal influence where it is not needed and free government resources for application where they are needed.

John Millett, Executive Vice President, Academy for Educational Development, believes that institutional planning commissions or teams on each college and university campus are the really vital policy makers who will determine the fate of higher education in the next few decades. He defends this choice, then cites the issues requiring their attention and offers some perceptive advice.

The last chapter, written by Russell Thackrey, contains insights into the governmental process and provides a valuable history of the Miller Bill and other attempts at Federal legislation.

15:1.3/76-1

Federalism at the Crossroads: Improving Educational Policymaking. Samuel Halperin and George R. Kaplan, eds., 108 pp. (Institute for Educational Leadership, George Washington University, Washington, D.C.).

This volume is an anthology of 17 papers by a diverse group of policymakers and staffers from throughout the governmental system. Although there is much duplication, each author clearly makes distinctive contributions to the literature on Federal involvement in education.

Joseph M. Cronin, Superintendent of Education, State of Illinois, recognizes the dangers in increased Federal control, but questions whether State and local leaders have sufficient initiative to stop the trend while graciously accepting Federal support. John C. Pittenger of Pennsylvania is also disturbed by the possible imbalance developing in Federal-State relations and suggests both positive and negative facets of an appropriate level of Federal involvement that educators should seek. Perhaps more important and fundamental is his admonition that States should take on the responsibility for education to avoid the *need* for Federal intervention.

Coming from New Mexico which ranked 49th in per capita income among the States but at the same time dedicates 75 percent of its total general fund toward the support of public education, Harry Wugalter argues that Congress has a tendency to forget differences among the States in attempting to create a uniform piece of legislation. He goes on to list ways in which Federal involvement has caused concern, ways which stem, in part, from failure to observe the peculiarities of States and consult with State representatives.

Samuel Halperin concisely describes Federal legislation as "increasingly preemptive, prescriptive and regulatory," with the cumulative impact being one of "over-regulation, underfunding and sluggish Federal implementation." But he writes that Washington, D.C., is increasingly aware of the limits of Federal intervention, yet perceives State authorities and educators as defaulting on difficult problems so as to require Federal incentives to "solve the problem." He suggests strong countervailing initiatives by State and educational leadership including strengthening the Education Commission of the States and requiring the States to contribute much more than their current 8 percent of the ECS budget. It is the view of Fred G. Burke, Commissioner of Education, State of New Jersey, that public education vis-à-vis Washington, D.C. will continue to be reactive until a legitimate and powerful educational spokesman can be developed. Organizations such as the Education Commission of the States are often dependent on partisan State politics which he fears renders them impotent to deal with the real issues of educational leadership. Even raising the U.S. Commissioner of Education to Cabinet rank may not resolve the problem.

Other papers in the volume include Warren Hill's discussion on the role of the State in education, with some excellent observations on the real lack of a completely coordinated State planning effort; Richard Dallas Smith's review of the struggle between Congress and the Executive Branch for policy control in education; and two entries by Robert C. Andringa, Minority Staff Director, Committee on Education and Labor, U.S. House of Representatives. His list of 11 factors influencing Federal education legislation should come under closer scrutiny by State and educational leaders seeking greater effect in shaping national legislation. It is worth noting that Andringa's impression is that the personal judgment and values of usually no more than six to ten Members of Congress and staff shape and resolve final legislative decisions. Thomas R. Wolanin's paper on congressional information and policymaking, subtitled "Don't Trouble Me With the Facts," speaks for itself. State officials and educators admonished in the earlier essays to assert more leadership in education, should welcome the advice of Andringa and Wolanin.

Readers of this anthology will be interested in the Institute for Educational Leadership's *Perspectives on Federal Educational Policy: An Informal Colloquium* (1976), 54 pp. This discussion by five seasoned, bipartisan, Washington-based Congressional staffers and former Executive Branch aides involved in educational policymaking, complements and analyzes the main lines developed in *Federalism at the Crossroads.* The freedom and spontaneity of the open discussion encourages forthright and creative contributions which are stimulating and realistic. The participants consisted of Robert Andringa, Chester E. Finn, Jr., Samuel Halperin, Michael Timpane, and Thomas Wolanin.

15:1.3/76-2

The Implications of Federal Education Policy, Clifton Conrad and Joseph Cosand, ERIC/Higher Education Research Report No. 1, 65 pp. (American Association for Higher Education, Washington, D.C.).

This paper is designed to stimulate thought and evaluation of the directions of current Federal policy in the support of higher education. The authors begin by tracing the role of the Federal government in American higher education chronologically, illustrating major trends and identifying significant dates and events. Particular attention is given to the 1972 Education Amendments, including the newly-authorized student aid programs and the establishment of State Postsecondary Planning Commissions (1202). The 1972 Amendments dramatically shifted the pattern of Federal assistance from institutional categorical aid for special purposes to student aid as the major mechanism of financial support. Less understood is the erosion of student aid funding by accelerated inflation which has resulted in an actual decline between 1973-74 and 1974-75 in Federal money appropriated in constant dollars.

In the second chapter the authors point out that current student aid funding levels are insufficient to bring about access and reasonable choice to disadvantaged students. They further argue that increasing costs and rigorous financial needs tests are reducing the college attendance rates of middle-income students. The authors believe that equality of opportunity, defined both in terms of universal access and greater social equality, has not been adequately fostered through current Federal student aid programs, which are aimed directly at disadvantaged students.

With regard to institutional health and diversity, Federal funding of postsecondary education through student aid has not necessarily served as an effective means to promote the financial well-being of colleges and universities. Private colleges, in particular, are still hard-pressed to provide additional financial aid money to students not eligible for Federal or State programs or not covered adequately by such programs to meet their real expenses. Also hurting both public and private institutions has been the decline in constant dollars of Federal research grants and the decline in the number of Federal predoctoral fellowships and traineeships. The authors wisely temper their criticism by recognizing that the Federal government provides only a fraction of the revenue of postsecondary institutions and therefore should not necessarily assume the major burden for maintaining its vitality.

The final chapter offers three recommendations for the Federal role in higher education. The first is that Federal assistance to postsecondary education be increased, because institutions need help with their health and diversity problems, and because the Federal tax structure is a more equitable base of funding State and local structures. The authors also recommend that institutional grants for *instructional purposes* serve as a second major vehicle of Federal support. This would require a complete reevaluation of current policy to support education through student aid. Finally, the authors recommend that direct institutional support should be *complemented* by student aid programs for disadvantaged students, especially the Basic Educational Opportunity Grant (BEOG), State Student Incentive Grants (SSIG), and College Work Study (CWS) programs.

15:1.3/73

The Second Newman Report: National Policy and Higher Education, Special Task Force to the Secretary of Health, Education, and Welfare, 227 pp. (MIT Press, Cambridge, Mass.).

This second report of a study group headed by Frank Newman deals with the Federal role in postsecondary education. Two themes dominate the discussion: the necessity for the government to shift stress from growth to effectiveness; and the need to develop a new concern for the form of public support, the methods of decisionmaking, and the achievement of goals. Overall the group concludes that the time has come "to reexamine our concepts of the structure and purpose of higher education so that we can more realistically design Federal involvement."

The Federal presence in higher education is examined from a number of perspectives: its funding programs, its tendency toward the regulation of the economics and administration of institutions, and its indirect influence through areas outside education. The Federal role is defined as the source of support and regulation "*creating conditions* under which the educational needs of American society are most likely to be met." Recommended Federal roles are guaranteeing openness and competition, providing funds to broaden the range of educational opportunities, and helping to accomplish tasks too extensive to handle on any other level. Recommendations are made on these responsibilities, supported by charts and tabular materials.

Among the issues raised are the disparity between public and private enrollments, the inability of a college degree to guarantee economic and social mobility, the egalitarian concept of education, the status of minorities, and the creation of "multi-campus-system bureaucracies."

Concerning egalitarianism, the report states that for the most part access has been achieved, but "realistic mass educational opportunities" have not. It also observes that colleges are losing their placement capabilities; "a college education is now a necessary but no longer sufficient condition for social mobility." Among the new requirements cited as necessary for effective education are student motivation, a diversity of institutions appropriate to diverse student interests, and more recurrent educational opportunities.

New political realities, "new rigidities . . . appearing in the body politic of many institutions," will affect Federal involvement. Organizational changes have shifted the decisionmaking process from college campuses to multi-campus systems, State governments, faculty unions, and the State and Federal courts. Professional groups acting through State governments and national alliances have developed new rules of accreditation, certification, and licensure.

2.0 THEORY AND PRACTICE

There is considerable overlap between planning at the State and national level, and planning at the institutional level. Volumes designed more for use by college and university planners have been excluded here, although much of their content has broader application. See, for example, *Planning in Higher Education,* John Millett, ed., 1977 (Management Division, Academy for Educational Development, Washington, D.C.); and *Research and Planning for Higher Education,* Robert Fenske and Paul Staskey, eds., 237 pp. (Association for Institutional Research, Northern Arizona University, Flagstaff, Az.).

15:2.0/76

Planning for Higher Education: Background and Application, Allan O. Pfnister, 354 pp. (Westview Press, Boulder, Colo.).

From the literature of the sixties and early seventies, Allan Pfnister has brought together the more significant findings and commentaries of literally hundreds of scholars and practitioners in higher education. This wealth of material (over 800 credit footnotes), is more than a compilation of information, however; it is an effective organization and summation of the current status of American higher education. An overriding commentary by Pfnister ties the parts together and identifies major trends and developments. Pfnister believes that this approach should provide planners and others with "a perspective of how problems have developed, what factors seem to be involved in the changes taking place, and what has been the experience of others in trying to cope with the problems."

The material is organized around five major problem areas: enrollments, students, governance, curriculum, and financing. Each of the topics is introduced with a scene from the life of a new dean in an all too typical problem situation. The dean's narrative is followed by a review of the relevant general literature, studies, and research reports. Each section concludes with some advice to the dean for his own planning.

The first section reviews trends in enrollment and variance in projections and forecasts. There are wide variations of opinion about when, in what degree, and how the overall enrollment conditions will be reflected among the different types of institutions. With the average age of persons attending college increasing, use of the 18-21-year-old population as a source group for projections is being questioned which adds to the difficulties of enrollment projection. Next, attention is directed to discussions of the contemporary college student. What "really" happened in the 1960's and what differences, if any, exist between the activist students of that period and the more diverse students of the 1970's? In the third chapter, the multiple problems of governance are viewed as new pressures are brought to bear on administration and faculty. Attempting to cope with such forces, various types of organizational structures are being tried and others proposed. Tenure is openly debated, and collective bargaining seems to have become a permanent part of faculty life. Next, curriculum seems to be undergoing significant change, and there is much writing about reforms in the instructional program. Yet how different are these 1970's "innovations" from many of the "experiments" of earlier decades? What forms will the curriculum take in the 1980's? Lastly, a topic is addressed that has emerged with special force in the mid-1970's: How do we finance the enterprise? Are there new forms for fiscal policy? Are there new sources of income, new economics that can be applied in times of financial stringency?

15:2.0/74

Statewide Planning in Higher Education, D. Kent Halstead, U.S. Department of Health, Education, and Welfare, Office of Education, 812 pp. (U.S. Government Printing Office, Washington, D.C.).

In its second printing, this extensive study of the theories, analyses, and procedures involved in statewide planning remains the most comprehensive single "how-to" volume available. Focusing on the "point of view" and "special problems" of State planning officers and technicians, the book identifies the major areas of concern to planners, their component parts, and the factors that should be considered in planning. The author has made a serious effort to collect and summarize virtually all the important facts, experience, and opinions existing on the subject. This information is distilled wherever possible into workable procedures for arriving at solutions. This concentration on technology and theory has reduced the obsolescence that affects more issue-oriented volumes.

The handbook is divided into 14 chapters: design for statewide planning, socioeconomic comparisons among States, extending educational opportunity, financial aid to students, differential functions of colleges and universities, the search for (educational) excellence, meeting area educational program and capacity needs, measuring professional manpower supply and demand, college and university libraries, space management and projection, campus and building planning, financing higher education, government support and institutional economies, and State budgeting for higher education. Each chapter has an annotated bibliography.

The four appendices include the methodology for projecting large enrollments, higher education price indexes, college and university financial data, and college and university student migration data.

3.0 TRENDS AND FORECASTS

15:3.0/76

Presidents Confront Reality: From Edifice Complex to University Without Walls, Lyman A. Glenny, John R. Shea, Janet H. Ruyle, and Kathryn H. Freschi, Carnegie Council on Policy Studies in Higher Education, 261 pp. (Jossey-Bass, San Francisco).

This book is based upon a national survey of the nation's college and university presidents, intended to obtain their firsthand impressions of the current campus situation. The survey was designed primarily to determine the types of institutions and the manner in which they are being affected by stable or declining enrollments and funding, and the actions they are taking. Representatives of 1,227 institutions, enrolling approximately two-thirds of all students in higher education, returned usable questionnaires.

Chapter 2 of the report concentrates on how presidents anticipate and perceive changes in student enrollments, plant and operating expenditures per student (most expected some increase or little change in both), and deferral of physical plant maintenance (only 12 percent reported "extensive" deferral since 1968). Chapter 3 examines shifts taking place in undergraduate enrollments by field of study (primarily growth of enrollments in vocational areas), and efforts to eliminate (or consolidate) courses and programs.

Chapter 4 studies matters of faculty composition (tenured versus nontenured), workload, staff development, collective bargaining, and early retirement against the backdrop of new program priorities, level of funding, and changing enrollment patterns. Leslie and Miller (1974) view present discussions regarding tenure quotas, nontraditional forms, stepped-up recruitment, and new sources of money, as higher education's response to the slowing growth of enrollments and funding. Chapter 5 examines their view in some detail by considering new markets, new resources, and reorganization of the industry, in addition to new products and new methods. Only 35 percent of the respondents saw some change in the ratio of students to faculty as a means of increasing productivity or reducing costs. Several presidents indicated that they would try to increase "productivity" by using more paraprofessionals and support staff and wider implementation of media-based or self-directed learning.

Chapter 6 considers various planning and management techniques that are being used more and more to increase institutional responsiveness and acquire needed resources. Chapter 7 examines the shifting locus of general decisionmaking authority from the campus to higher levels and its consequences for financial support, flexibility in campus use of funds, curricula reform and deployment of faculty; and administrators' perceptions of the helpfulness of various master plans. Only about half the administrators reported that system and statewide plans have helped their institution over the years since 1968. About 15 percent said that such plans hindered their institutions.

Chapter 8 reports on the perceptions of institutional leaders regarding the effects the new depression in higher education is having on quality of students, programs, and faculty. Some see positive consequences; many others see negative ones. Chapter 9 considers policy dilemmas, opportunities, and constraints arising from current and projected conditions.

15:3.0/75

More Than Survival: Prospects for Higher Education in a Period of Uncertainty, Carnegie Council on Policy Studies in Higher Education, 166 pp. (Jossey-Bass, San Francisco).

This first of a new series of commentaries by the Board of Trustees of the Carnegie Foundation for the Advancement of Teaching discusses the fading of the old vision of higher education and the birth of a new vision to take its place.

The problem for higher education, as viewed by the Carnegie Foundation, is the *rapidity* of the change from growth to steady state and also its *differential* effects on faculty members according to their age and on the various types of institutions.

In exploring the future of survival, the study first looks at the current scene and finds that administrators mostly view the process of adjustment without enthusiasm. Problems being encountered include conversion of facilities, rising tenure ratios and conflicts over tenure regulations, intensified struggles for authority, difficulties in increasing the students-to-faculty ratio, and various impairments of quality. In looking at the recent past, the Foundation then concludes that the current period is different from the past in degree but not in kind and that the preceding "ups" and the current "downs" are amplified.

Since higher education consists of many types of institutions, it is necessary to discuss its fate categorically. Based on preliminary enrollment forecasts, it is concluded that although the university's share of students is likely to be reduced by external factors, the university has an above-average capacity to make individual, selective adjustments and to withstand competition. Public community colleges also appear to benefit from the external forces and to have the capacity to adjust to them. The less highly selective liberal arts colleges, the private 2-year colleges, and, to a lesser extent, the comprehensive colleges, are in the least favorable position. In terms of maintaining one's share of total enrollment it is better to attract all ages of students, provide for part-time attendance, be less dependent on teacher education, have public State support, etc.

The steps that institutions are taking to determine their own fate include the exploration of "markets" for students; the establishment of flexibility; the development of a sense of mission, an identity, and a separate character; and the pursuit of greater productivity. One overriding initiative is the use of more "administrative muscle" to shift and better utilize resources.

The Foundation suggests three major policies which would make good use of the capacities of higher education and aid the nation in achieving its goals: (1) financial provision to allow universal access to higher education, (2) steady support at adequate levels for research and research training, and (3) support for the private sector as a good investment in diversity and in competition for the public sector.

The final section is a summary of the dangers and opportunities ahead, the assets and liabilities facing higher education in the future, and what most needs to be done.

352

15:3.0/73

The Future of Higher Education, Alexander Mood, Carnegie Commission on Higher Education, 166 pp. (McGraw-Hill Book Co., New York).

This book is one result of a study conducted by the Public Policy Research Organization of the University of California, Irvine, which sought ways in which to substantially improve the efficiency of higher education so that students' education would not suffer appreciably when budgets were reduced. The final report, titled *More Scholars Per Dollar*, generally argued that massive increases in the effectiveness of our higher education system could not be achieved without massive rearrangements of the system itself and of society's utilization of the system. This present volume focuses on how the system might look in the future and what basic changes are possible.

Mood and his associates begin by describing the context in which higher education operates and the forces which shape it. Most conditions are well known—the abatement of injustices, the spread of information, decline in the work week, growth of government, and expected advances in science and technology. Yet, Mood then makes the surprising claim that young persons are now beginning to realize that human needs—to be loved, healthy, highly regarded, gainfully employed, etc.,—are little related to the traditional goal of working single-mindedly up an organizational ladder. The implication is that today's youth are likely to see formal higher education as less relevant to their needs than did their predecessors.

The current higher education system is described as one in which service to the elite has been replaced by service to the masses, and in which budgets have grown significantly. This growth has nurtured the development of higher education bureaucracies which are really not prepared to deal with universal access in a meaningful way. There is already a glaring mismatch between what today's students need in terms of a comprehensive relevant education, and the collection of unrelated details learned in courses refined according to the special interests of the instructor.

One solution lies in improving educational technology by the substitution of machines for teachers. Mood believes a video university is feasible which would operate entirely through the medium of video cassettes attached to television sets, thus dispensing entirely with the need for campus and faculty. But the subject matter taught would also need to be periodically overhauled and abstracted, with the essence concisely, clearly, and comprehensively developed, so that it would be relevant as well as efficiently taught. Our educational system now does not prepare its students for the world they must live in, Mood claims. He predicts this will change when people are freed from the emphasis on credentials and begin prescribing their own education.

With these anticipated changes in mind, an alternative system of higher education is hypothesized where the vast majority of students attend college initially on a full-time basis for only one year, and obtain further education as a part-time activity. This first year would be universal–almost everyone would attend regardless of whether he or she had graduated from high school. The one year of full-time attendance would be at a residential college, and the part-time lifelong learning would be more in the domain of the community college.

To advance this concept of future education, several courses of action are required. The video university would be funded by the Federal government. State support would be overhauled so that grants would be given to both high school graduates and dropouts to equalize their capacity to purchase some form of advanced education. Academic changes would include encouragement of more off-campus learning, elimination of entrance requirements, abandonment of the certification function, and the abolition of faculty tenure.

Forms of this educational approach already exist, but not to the degree envisioned possible by Mood. While his expectations may appear somewhat idealistic to some observers, all share his desire to see higher education get out of the credential business and effectively concentrate on relevant learning.

Presently of less value to higher education planning, and hence not listed, are the initial works of futurists " . . . concern(ed) . . . with the alternatives facing man as the human race collides with an onrushing future." Readers interested in an example of this new, gradually developing science of the laws, methods, and ways of prediction should refer to the publications edited by Richard W. Hostrop, *Education . . . Beyond Tomorrow* (1975), and *Foundations of Futurology in Education* (1973), ETC Publications.

4.0 REFERENCE

4.1 Statistics and Information

15:4.1/A-1

The Condition of Education, Mary A. Golladay and James Noell, eds., National Center for Education Statistics, U.S. Department of Health, Education, and Welfare, approx. 300 pp. (U.S. Government Printing Office, Washington, D.C.).

This annual report statistically describes the condition of education in the United States and reviews the activities of the National Center for Education Statistics. What makes the volume particularly useful is the abundance of carefully organized selected data and the graphical charts which effectively convey essential phenomena and trends. Also, most of the data are in ratios or index numbers which give meaning and relevance to usually sterile numbers.

The report is organized to reflect the characteristics of the education system and its relationship to the larger society. The first part describes trends and developments affecting education at all levels. Chapter 1 deals with the societal context for describing the condition of education, Chapter 2 covers elementary and secondary education, and Chapter 3 examines postsecondary education. Interest in postsecondary education is described in terms of plans of high school seniors, high school graduates not in school but interested in attending, and reasons cited by freshmen in deciding to go to college. Enrollments are presented by sex, family income, and racial/ethnic group. Institutions are described by student enrollment size and composition of governing boards. Numerous outcomes of education are presented including earned degrees, financial aid received, salaries of recent graduates, and educational attainment level. A number of tables deal with adult and noncollegiate postsecondary education.

In the second part of the report, special topics have been selected for closer analysis. Chapter 4 looks at education personnel, Chapter 5 examines the financing of higher education, and Chapter 6 compares education and labor force participation patterns in the United States with those in other countries.

The second part of the report contains a description of the Center's activities for the current fiscal year.

The informative statistics in this volume should at least provide planners with perspective—if not sharpened insights—into current educational practices.

15.4.1/A-2

Digest of Education Statistics, W. Vance Grant and C. George Lind, National Center for Education Statistics, U.S. Department of Health, Education, and Welfare, approx. 200 pp. (U.S. Government Printing Office, Washington, D.C.).

This is an annual abstract of statistical information covering the broad field of American education from prekindergarten through graduate school. Using numerous sources, the *Digest* contains information on a variety of subjects within the field of education statistics, including the number of schools and colleges, enrollments, teachers, graduates, educational attainment, finances, Federal funds for education, libraries, international education, and research and development.

The volume is divided into six chapters: All Levels of Education, Elementary and Secondary Education, College and University Education, Adult and Vocational Education, Federal Programs for Education and Related Activities, and Special Studies and Statistics Related to American education. To qualify for inclusion, material must be nationwide in scope and of current interest and value. Data extending as far back as 1870 have been employed in many instances in order to give some historical perspective. The introduction supplements the tabular materials in Chapters I through VI by providing a brief description of current trends in American education.

Chapter III of the volume dealing with college and university education includes sections on enrollment, faculty and other professional staff, institutions, degrees, income, student charges and financial aid, expenditures, property, and land-grant institutions. Together, the 74 tables comprise one of the most comprehensive compilations of postsecondary education statistics published.

15:4.1/A-3

A Fact Book on Higher Education, Charles Andersen, ed., approx. 200 pp. (American Council on Education, Washington, D.C.).

This handbook is published four times a year in issues titled: Demographic and Economic Data; Enrollment Data; Institutions, Faculty and Staff, Students; and Earned Degrees. Data are drawn from a variety of government and private sources and presented in convenient charts and tables that summarize past developments and projections. The most important feature of the series is the emphasis given to statistical revelation and documentation of trends and relationships. In this regard, most of the data is selected to provide meaningful indicators of the phenomena being observed, and is reported over an extended time period.

The first issue, which includes over 60 tables and related charts, presents demographic and economic data on population, income, business activity, labor force and employment, and higher education finances. Data in the second issue presents enrollment trends by level of student, sex, control and type of institution, region and State, and field of study. The faculty and staff statistics in the third issue includes count by sex, control of institution, position, full- and part-time status, highest degree held, and other characteristics. Faculty salaries are presented in a variety of classifications. The student-related statistics of this issue deal with student tuition, characteristics of entering freshmen, residence and migration data, and foreign students and study abroad. Earned degrees are presented in the fourth issue by level of attainment, distribution by field, percent distribution by sex and by control of institution, and other categories.

15:4.1/A-4

Higher Education in the States, Education Commission of the States, (Education Commission of the States, Denver, Colo.).

Three times a year a pamphlet from this series is issued providing annual information on State higher education activities, legislation, and support of private institutions and students. One issue reports for all the States individually, citing problems, activities, achievements, changes and other events of interest to the postsecondary education community. Such a document is useful to planners wishing to keep abreast of current State events in education. A second issue is devoted exclusively to reporting new legislation in higher education on a State-by-State basis. A third issue contains an annual tabular survey of programs in operation or approved for State support of private higher education. Programs are briefly identified and funding levels stated for each of six support areas: contracts, direct institutional aid, disadvantaged/minorities, facilities assistance/authorities, medical/dental/nursing, and student assistance. Other periodic issues contain special reports such as a survey of the basic legal structures and responsibilities of State coordinating or governing agencies and other special topics.

15:4.1/A-5

Projections of Education Statistics, Martin M. Frankel and Forrest W. Harrison, National Center for Education Statistics, U.S. Department of Health, Education, and Welfare, 150 pp. (U.S. Government Printing Office, Washington, D.C.).

This annual publication provides projections of enrollments, graduates, faculty, expenditures, and student charges for institutions of higher education. The projections assume, primarily, that the trends over the past 11 years in enrollment rates, retention rates, class sizes, and per-student expenditures will continue through the next decade. The population 18 years of age is used for projecting both high school graduates and first-time college enrollment. Preferable, in this reviewer's opinion, would be the more laborious cohort-survival methodology whereby survival rates are projected for successive annual groups of pupils, thus closely relating college enrollments to a more refined known supporting population.

Straight lines fitted by the least squares technique to a ratio (for example, of enrollment to population) as the dependent variable and time in years as the independent variable, is primarily used for projecting. This methodology is generally acceptable for determining a long-range trend in data, as is the intention of the authors. However, it also frequently results in a degree of discontinuity between last known observations and values for the immediate following projected years. This occurs when the projected trend line fails to coincide with the last known observation, and the projection must be "relocated." Early projected values may thus be subject to greater deviation from the long-range trend than later values, and should be used with this understanding in mind.

The National Center for Education Statistics employs the Consumer Price Index (CPI) to establish "constant-dollar" values. The CPI, designed to price a market basket of goods and services purchased by general consumers, has little relevance to the purchases of colleges and universities which are primarily faculty, nonprofessionals, and contracted services. Consequently the validity of projected dollar amounts so adjusted depends on the degree to which the CPI happens to reflect inflation in the education industry. Fortunately recent trends in the CPI and the Higher Education Price Index (designed specifically to measure inflation in current operations of colleges and universities) have been similar, although individual yearly values differ markedly.

15:4.1/A-6

Rankings of the States, Richard J. Nuanes, 60 pp. (National Education Association, Washington, D.C.).

This is an annual report of 128 ranked lists of State data organized into nine sections: population, enrollment and attendance, faculty, general financial resources, governmental revenue, school revenue, governmental expenditures and debt, school expenditures, and miscellaneous. Although oriented toward elementary-secondary education, a substantial number of measures deal directly with higher education. The general demographic and economic data, particularly government finances, also are of value to planners at the postsecondary level.

15:4.1/A-7

State Postsecondary Education Profiles Handbook, Nancy M. Berve, ed., 261 pp. (Education Commission of the States, Denver, Colo.).

The handbook is published annually and presents information about postsecondary education in the 50 States and the District of Columbia. Information about each State is organized into four main parts as follows:

Part I includes a narrative description of the State-level coordinating or governing agency, institutional governing boards, current master planning activities, the 1202 Commission, State student assistance agency or agencies, the State board of vocational education, the State-level organization for private colleges, and the State licensure or approval agencies. Additionally, three descriptions are included for certain groups as they apply to some States–voluntary or statutory committees for articulation between elementary-secondary and postsecondary education; nongovernmental organizations whose membership includes both public and private institutions; and statutory advisory committees or task forces.

Part II includes descriptive statistics on State population and trends, State and local financial base, State and local governmental spending, State and local spending on higher education, student demand for public higher education, institutional program mix, faculty support and load, diversity of postsecondary funding sources, and student tuition and fees.

Part III includes a section listing the annual and biennial reports published by State agencies available for distribution. Another section contains recently published special reports and studies, along with the title, publication date, availability, the agency requesting and completing the report, and major issues covered.

Part IV lists special reports and studies currently underway or being planned.

4.2 Bibliography

15:4.2/S

Educational Resources Information Center (ERIC)

ERIC, sponsored by the National Institute of Education (NIE), is a nationwide network of clearinghouses and other contractors designed to develop a bibliographic data base covering the English-language literature of education. The emphasis is on the fugitive literature (technical reports, curriculum materials, project descriptions, etc.) and on the journal article literature.

The sixteen ERIC Clearinghouses are each responsible for a specialized segment of the entire field; e.g., Career Education, Higher Education, Junior Colleges, Teacher Education, etc. Each Clearinghouse collects documents and processes (catalogs, indexes, abstracts) them for inclusion in the machine-readable data base. The Clearinghouses also produce syntheses of the literature known as Information Analysis Products and assist users in retrieving needed information from the data base.

The ERIC Processing and Reference Facility is responsible for editing the work of the Clearinghouses, constructing the machine-readable data base, photocopying the monthly abstract journal, and providing the data base on magnetic tape to interested users.

The ERIC Document Reproduction Service (EDRS) (order from EDRS, P.O. Box 190, Arlington, VA 22210) is responsible for preparing microfiche of all documents in the system which are released by their authors for reproduction (about 90% of the total). EDRS provides a subscription service for ERIC microfiche and processes on-demand orders for microfiche and hard copy.

The two principal products of the ERIC system are the abstract journals (cited below): *Resources in Education* (RIE) and *Current Index to Journals in Education* (CIJE). Secondary products are the *Thesaurus of ERIC Descriptors* (the indexing vocabulary), the microfiche collection, the magnetic tapes, and various subsidiary publications such as the *Title Index, Contract Number Index, Report Number Index*, etc.

The ERIC data base is retrievable via all three of the major on-line vendors: Lockheed, SDC, and BRS. The ERIC microfiche collections exist at some 700 locations both domestic and foreign. Computer searches of ERIC are available from several hundred locations. The ERIC system is the pre-eminent bibliographic data base in the field of education.

Resources in Education (RIE), Educational Resources Information Center (ERIC), approx. 400 pp. (U.S. Government Printing Office, Washington, D.C.).

A monthly abstract journal announcing recently completed research reports, descriptions of programs, and other documents of educational significance indexed by subject, author, and institutional source. Abstracts are limited to 200 words. Entries are made once and not repeated in subsequent issues. Periodical literature is not included (see entry below). Cumulative, semiannual indexes are available. Annual subscription ($42.70) from U.S. Government Printing Office.

Current Index to Journals in Education (CIJE), Educational Resources Information Center (ERIC), approx. 300 pp. (U.S. Government Printing Office, Washington, D.C.).

A monthly guide to the periodical literature, with coverage of more than 700 major educational and education-related publications. It includes a main entry section with annotations, and is indexed by subject, author, and journal title. An annual cumulative index is available. Annual subscription ($70) from U.S. Government Printing Office.

15:4.2/79

Higher Education Planning—A Bibliographic Handbook, D. Kent Halstead, ed., National Institute of Education, U.S. Department of Health, Education, and Welfare, 539 pp. (U.S. Government Printing Office, Washington, D.C.).

Earlier works by Lewis Mayhew, Roger Kelsey, et al., provided yearly bibliographic coverage of higher education literature, but have been discontinued. This volume fills the void by establishing a continuing bibliography in the major field of higher education planning. Because planning encompasses so many aspects of education, the bibliography is quite comprehensive although excluding pedagogy, learning theory, curriculum design, and other topics more pertinent to institutional study than State and national level interest.

Selectivity is key to the bibliography's value. Entries have been carefully screened and are recommended by experts for their substance and distinctive contribution. The experts, serving as Associate Editors in their field of specialization, are well known scholars and practitioners recognized for their competence. Also adding value to the bibliography are the complete annotations which assist the reader in identifying content most likely to meet his specific needs.

Entries are organized in 22 topic areas:

Admission, Articulation, Retention
Campus and Building Planning
Comparative Planning Systems
Demography
Economics
Educational Communication and Technology
Educational Opportunity
Faculty
Finance
Governance and Coordination
Independent (Private) Higher Education
Institutional Role and Mission
Libraries
Management–Quantitative Approaches
Planning–Issues, Theory, Reference
Productivity and Cost-Benefit Analysis
Research
Resource Allocation and Budgeting
Space Management and Projection
Student Characteristics and Development
Student Financial Assistance
Work and Education

An author index is presented.

4.3 Directory

15:4.3/A-1

Directory of Professional Personnel, Education Commission of the States, 86 pp. (Education Commission of the States, Denver, Colo.).

This is an annual directory providing names, addresses, and phone numbers of statewide agencies in each State together with names and titles of principal staff members. Other organizations included are: the Southern Regional Education Board (SREB), the New England Board of Higher Education (NEBHE), and the Western Interstate Commission for Higher Education (WICHE)—together with the National Center for Higher Education Management Systems (NCHEMS) and planning agencies in the Canadian Provinces.

15:4.3/A-2

Education Directory: Colleges and Universities, Arthur Podolsky and Carolyn R. Smith, National Center for Education Statistics, U.S. Department of Health, Education, and Welfare, 533 pp. (U.S. Government Printing Office, Washington, D.C.).

This book lists institutions in the United States and its outlying areas that offer at least a 2-year program of college-level studies, and (in most instances) are accredited by a nationally recognized accrediting agency or approved by a State department of education or State university. The information presented for each institution includes its telephone area code and number, address (including the ZIP code), congressional district and county in which it is located, Federal Interagency Committee on Education (FICE) identification code, date established, fall enrollment, undergraduate tuition and fees, sex of student body, calendar system, control or affiliation, highest level of offering, type of program, accreditation, names and titles of principal officers, and a coded classification of principal officers by functional area of responsibility.

4.4 Data and Information Sources and Services

15:4.4/S-1

EDSTAT II (National Center for Education Statistics, Washington, D.C.).

EDSTAT II is a national on-line education data retrieval system operated by the Division of Statistical Services, National Center for Education Statistics. Users anywhere in the continental United States can query the extensive data bank of education statistics through standard keyboard-type computer terminals using the facilities of a national commercial time-sharing service, sponsored by the General Services Administration. EDSTAT data files have been prepared for use with an information management and retrieval software package, permitting many users to simultaneously query the same data base. In addition, EDSTAT data files are available in FORTRAN-compatible form to permit users to develop educational models or perform statistical analysis using existing software packages (e.g., SPSS - Statistical Package for the Social Sciences).

EDSTAT data are stored both on-line and on magnetic tape. Frequently used data are immediately available to users. Other data require delays of a few minutes to a few hours (depending upon the size of the data file) before they can be interactively acquired by the user. Costs of using EDSTAT vary according to requirements and usage. For example, a simple tabulation from an average size data file may cost less than $5.00 to prepare. Other types of reports may cost in excess of $100. The user bears all telephone and data processing charges for his use. All EDSTAT data base preparation and storage costs are incurred by NCES.

EDSTAT Data Bases. The scope of EDSTAT data holdings is essentially limited to United States government statistics, primarily those collected by NCES. To date, EDSTAT has placed emphasis on developing postsecondary education data resources (e.g., HEGIS) for public access, but there are increasing numbers of requests for other types of education data–vocational, elementary/secondary, etc.–and EDSTAT is actively seeking to address these data needs.

15:4.4/S-2

NCHEMS Database Holdings and Services (National Center for Higher Education Management Systems, Boulder, Colo.).

The NCHEMS database holdings include data from such organizations as NCES, the Census Bureau, National Science Foundation, and the Center for Human Resources. Institutions and States are predominant units of analysis in the database. The subject matter includes enrollments, earned degrees conferred, employees of higher education, institutional characteristics, State-level finances, institutional finances, and general population demographics and other statistics of individual States. Several data files are compilations of data from a large number of sources. These data files were primarily created for particular research and data analysis projects, and represent a rich set of data which can be used by other individuals for postsecondary education research and planning.

In addition to comprehensive database holdings, NCHEMS access to a number of data management and analysis packages is provided. These include: MARK IV, the Bureau of Labor Statistics' Table Producing Language (TPL), Biomedical Computer Programs (BMCP), Statistical Package for the Social Sciences (SPSS), Statistical Analysis System (SAS), MINITAB and OSIRIS. These packages provide the capability of reorganizing, combining, and reformatting data files, and the capability for extensive and sophisticated statistical analysis of the data.

IBM 360/195 located at the United Airlines Computing Center in Denver is used. A remote job entry facility, located in NCHEMS, is used to communicate with the system at UAL. Nine-track, 800 bpi, 1600 bpi, and 6250 bpi tape drives are available. This capability is supplemented by the academic computing center at the University of Colorado. Hardware facilities there include dual CDC 6400's and 7- and 9-track, 800/1600 bpi tape drives.

15:4.4/76

A Guide to Sources of Educational Information, Marda L. Woodbury, 371 pp. (Information Resources Press, Washington, D.C.).

This reference is a guide to the following types of information sources: 1) printed materials which consolidate, keep current, or lead to further sources of information; 2) education libraries or information centers; 3) organizations and government agencies active or knowledgeable in education-related fields; and 4) special search or bibliographic services.

Elementary and secondary education are more comprehensively covered than postsecondary education. The descriptions provide the user with a clear means of tapping the potential source and a general description of the type of information available.

15:4.4/75

A Reference Guide to Postsecondary Education Data Sources, Katherine A. Allman, 292 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

This reference is the only guide directed exclusively to identifying data sources useful to postsecondary education planning. It describes publications, articles, and data bases related to most of the items of information identified in the NCHEMS *Statewide Measures Inventory* (Allman, Wing, and McLaughlin, 1975). For the various references, information is provided on how the data are organized, the kinds of information given, the level of aggregation, the years for which data are available, and those measures in the *Statewide Measures Inventory* which correspond to the data referenced.

15:4.4/74

Directory of Educational Statistics: A Guide to Sources, Malcolm C. Hamilton, 71 pp. (Pierian Press, Ann Arbor, Mich.).

This directory guides readers to sources of educational statistics, both current and historical, on a wide range of topics. The publication history of each series is described on a year-by-year basis. The descriptions for the statistical entries are general, and insufficient to determine the data's compatibility with other elements. A helpful improvement would be more detailed descriptions of the series to include format of presentation, coding employed, and levels of aggregation.

16

Productivity and Cost-Benefit Analysis

Wayne R. Kirschling

* * *

The most common conceptual model of productivity is based on the relationships among inputs (factors of production), processes (production technologies), and outputs (products or goods and services). A distinction is usually made between effectiveness and efficiency. Effectiveness involves producing the "right" outputs in response to the demand for certain goods and services, the expectations of financers, and the goals and objectives of the producing unit. Efficiency entails producing outputs by the least costly combination of inputs and processes.

The distinction is sometimes made between mechanical models of productivity (e.g., the input-process-output model) and behavioral models. The behavioral model considers such concepts as: incentives for and constraints on individual and collective behaviors, the correlation of interpersonal relationships, e.g., peer groups among students, and the community of scholars among faculty. These two models are not opposed; rather they provide important, complementary perspectives on higher education productivity. The mechanical model provides important data on how inputs and processes affect outputs, the kind of information often needed for State and Federal planning. The behavioral model helps explain why higher education cannot be considered in purely mechanical or "black box" terms. Unless human behavior is considered in introducing operational changes, little real improvement is likely to be accomplished.

The entries selected in this topic are intended to increase awareness and understanding of productivity and help planners maintain and improve higher education productivity in terms of reduced costs and improved outcomes. The entries within the following subtopics are subdivided according to whether they: 1) report empirical findings, 2) suggest means for improving productivity, or 3) describe and discuss appropriate methodology.

Outcomes. Outcome considerations are part of the planning process, for goals developed during planning can be viewed as intended outcomes. Because the goals of education are considered under several other topics (see also Topic 11: Institutional Role and Mission; and Topic 15: Planning—Issues, Theory, Reference), the primary, but not exclusive emphasis here is on entries which concentrate either on how goals can be translated into measurable outcomes, or on how actual outcomes compare with previously developed goals. Studies in this subtopic consider such outcomes as student achievement, faculty productivity, and degrees awarded. Other entries cover ways to assess needs and build outcome considerations into higher education management. An effort has been made to emphasize entries which reflect a comprehensive view of broad individual and social outcomes without delving into specialized interest groups.

Costs. If outcomes can be described as a pivotal factor in planning, costs are an inevitable factor. Costs are primarily studied from an institutional standpoint—ways to use resources more efficiently, ways to reduce expenditures, and ways to achieve low-cost instruction. This cost analysis involves all types of costs: total, fixed, variable, marginal, and average. Student costs are covered in Topic 21: Student Financial Assistance; the question of underwriting costs and how this can be accomplished is covered in Topic 9: Finance. Other theoretical and macroeconomic concerns of higher education are considered in Topic 5: Economics.

Cost/Outcome Relationships. In some ways the analyses of costs and outcomes are becoming specialized in higher education. Outcomes are largely the concern of academicians, faculty and department heads; costs, of accountants and financial managers. Often these two interests come together only at the chief executive or board of regents level. This division is seemingly unsupportive to productivity (at least in theory and probably in practice); it is only when costs and outcomes are analyzed in combination that productivity studies realize their full potential. In higher education, planned outcomes need to be adequately supported. Financing in turn needs the direction provided by clear and agreed-upon goals and objectives. This subtopic addresses the link between costs and outcomes.

The cost of programs and their final impact are required to measure productivity. This dual measurement requirement should be of major concern to planners, for inadequate productivity studies can damage the substance of higher education, just as complete studies can enhance it. The entries chosen here are intended to provide background to encourage productivity analyses that are complete and beneficial.

TOPIC ORGANIZATION

16: Productivity and Cost-Benefit Analysis

- 1.0 Outcomes
  - 1.1 Empirical Studies
  - 1.2 Recommendations
  - 1.3 Methodology
- 2.0 Costs
  - 2.1 Empirical Studies
  - 2.2 Recommendations
  - 2.3 Methodology
- 3.0 Cost/Outcome Relationships
  - 3.1 Empirical Studies
  - 3.2 Recommendations
  - 3.3 Methodology

1.0 OUTCOMES

1.1 Empirical Studies

16:1.1/77-1

"The Effects of Academic Departments on Student Learning." Rodney T. Hartnett and John A. Centra, *The Journal of Higher Education*, September/October, 17 pp.

This study is a key addition to the literature dealing with college effects on student outcomes. Most of the earlier research on college effects has focused on the impacts of different college environments. Hence, the unit of analysis in these studies was the institution. In this study, the focus is on the effects of academic departments. Specifically, the "effects of academic departments on student achievement as assessed by standard measures of knowledge within selected subject areas" is studied. Departments from four fields–biology (N = 43), business (N =37), mathematics (N =38), and psychology (N = 35)–are studied. The criterion measures are the average scores of students from each department on the advanced tests of the Graduate Record Examinations (GRE) and the field tests of the Undergraduate Program (UP) of the Educational Testing Service. Information on departmental characteristics was gathered by a survey of departmental chairmen.

Three specific questions are addressed: (1) Are there substantial differences between departments within an institution as regards their effects on student learning?, (2) Are there differences in student learning effects among sub-discipline specialties within the same department?, and (3) Are there departmental characteristics which correlate with the student learning effects of departments? The findings of the study with regard to each of these questions respectively are that: (1) "There does appear to be evidence for frequent educational effect differences between departments within the same institution, (2) "There was very little diversity [in educational effects] between subfields within departments," and (3) "Analysis of various characteristics of departments failed to identify any features consistently associated with indices of effectiveness."

The major limitation of this important study, which it shares with many other studies in this area, is that it looks at a single outcome–in this case, student achievement as measured by standard measures. The analytical methodology it employs (regression analysis) is suited to the study of a single outcome but not of the multiple outcomes that characterize most academic departments. This limitation does not detract from the study's major finding that there are important differences at the departmental level in student learning.

16:1.1/77-2

"Productivity Ratings of Graduate Programs in Psychology Based on Publications in the Journals of the American Psychological Association," W. Miles Cox and Viola Catt, *American Psychologist*, October, 21 pp.

The purpose of this study is to provide objective indexes of *quality* for graduate programs in psychology. Quality is measured by the *quantity* of publications in 13 journals of the American Psychological Association. These journals were chosen for their selectivity (as evidenced by their rejection rates) and by their prestige among psychologists. The number of articles associated with each of the 76 most productive colleges and universities are reported for each 2-year period from 1970 through 1975. An overall table, as well as separate tables, are presented for each of the 13 journals. A table which ranks programs on their overall productivity per faculty member is also provided.

The methodology and results of this study are compared to those of the 1970 American Council on Education sponsored study of Roose and Andersen. The Roose and Andersen study and its predecessor (Cartter, 1966) are criticized because: ". . . they were based on no objective indexes of quality but merely upon the 'reputation' of the raters. . . . (furthermore) these ratings provide only a global view of faculties as a whole, they obscure strengths and weaknesses of programs in particular areas of psychology."

Considerable differences in results are noted between this study and the Roose and Andersen study. Possible biases in the Roose and Andersen study against programs stressing applied psychology against newer programs and against smaller programs are observed in statistical tests which compare the results of this study to Roose and Andersen results.

The study provides a number of interesting findings about *journal publication* productivity. For example, the productivity of the 76 most productive programs rose only 1.0 percent during this 6-year period; few programs were found to be equally productive in all areas of psychology; and in an aggregate sense, there were wide variations in productivity even among the most productive programs.

While limited to just psychology, this study is important because it criticizes the Roose and Andersen study which applies to graduate programs in all disciplines. Its major strength is that it provides a concrete example of how journal publication productivity can be studied. It recognizes a number of limitations including the need to account for the production of books and the possibility that "the quality of instruction that a graduate student receives is inversely related to the prolificacy of his or her professors." Its major weakness is that it attempts to use a measure of quantity as a proxy for a measure of quality. This equation is done to facilitate the comparison with the Roose and Andersen quality rankings. The comparison is misleading because different attributes are being measured.

16:1.1/76

Studies of Productivity in Knowledge Production and Utilization by Schools, Colleges, and Departments of Education, David L. Clark and Egon G. Guba, 60 pp. (Rite Occasional Paper Series, Indiana University, Bloomington).

This study was part of a larger 2-year study of knowledge production and utilization (KPU) activities in schools, colleges, and departments of education (SCDE's). The overall study was funded by the National Institute of Education and conducted by Research on Institutions of Teacher Education (RITE) staff at Indiana University.

Seven separate analyses were accomplished. These analyses examined: "(1) publications in educational journals, (2) documents stored in the Resources in Education (RIE) file of Educational Resources Information Center (ERIC), (3) published books in education, (4) presentations at national conventions of educational associations, (5) KPU projects in education funded by private foundations, (6) KPU projects in education funded by other agencies, and (7) the institutional source of terminal degrees of faculty of SCDE's."

Results for individual schools, colleges, and departments of education are not reported. It is suggested that this data is available upon request. The 1,367 SCDE's studied are broken down into 12 categories on the basis of three factors: degree level offered in education (doctoral, master's, baccalaureate); institutional control (public, private), and likely involvement in educational KPU (more likely, less likely).

The doctoral-granting universities, whether publicly or privately controlled, rank highest in all areas studied in both total and per faculty member output. Some planning dilemmas for governmental agencies, for foundations, and for individual institutions arising out of these findings are discussed. These dilemmas center around whether or not the "weak" should be strengthened. Additional analyses are performed which look at which types of SCDE's are high producers. Interestingly, approximately 40 percent of the 153 doctoral institutions are either middle, low, or nonproducers in this classification scheme. These findings suggest the need for looking at institutions individually and not just by type. Finally, the educational output of SCDE's is compared to the output of other college and university agencies (e.g., departments of economics and business) and agencies outside colleges and universities (e.g., State departments of education, U.S. Government agencies). The major finding of this analysis is that SCDE's account for approximately 40 percent of the output in the various areas studied. This ranges from a low of approximately 6 percent of the ERIC citations to over 55 percent of the journal citations.

This study is an important one for two reasons. First, it utilizes a number of varied measures of research and development output. Second, it deals with schools, colleges, and departments of education. Given the projections of excess teacher supply, support for these SCDE's is and will continue to be closely examined. The data assembled for this study and the resultant findings provide valuable insights into these examinations.

16:1.1/70

A Rating of Graduate Programs, Kenneth D. Roose and Charles J. Andersen, 115 pp. (American Council on Education, Washington, D.C.).

For all practical purposes this study is a replication of an earlier American Council on Education study conducted in 1964 by Allan Cartter. Cartter's study involved 4,000 faculty members at 106 institutions and looked at 30 disciplines. This study involved 6,000 respondents at 130 institutions and covered 36 disciplines. To be included in this study, an institution had to have awarded at least 100 doctorates in two or more disciplines over the last 10 years for which data was available. Within these institutions, to be included as a discipline, a department had to have awarded at least one doctorate in the last 10 years.

Senior scholars, department chairmen, and junior scholars were asked to provide peer ratings in three areas: (1) the quality of the graduate faculty, (2) the effectiveness of the doctoral program, and (3) recent change in quality of graduate education. Faculty ratings were on a 6-point scale ranging from "not sufficient for doctoral training" to "distinguished." Programs were rated on a 4-point scale from "not attractive" to "extremely attractive." Change was rated on a 4-point scale from "worse than 5 years ago" to "better than 5 years ago."

Results are provided by institution for each discipline. The leading institutions are ranked; all other institutions are placed within appropriate groups based on their scores, but they are not ranked within that group. For the leading institutions, comparisons are made wherever possible to the 1964 Cartter rankings and to the rankings arising out of a 1957 study conducted by Kenniston.

The authors point out several policy implications of the study. The first of these is that improvements in graduate education should not be stressed at the expense of improvements in undergraduate education. A second recommendation revolves around "the apparent duplication of program resources, particularly by the public institutions within a state." The authors feel that "A hard look must be taken at programs which fall below desired standards, with a view toward either shaping up or eliminating them." Additionally, the authors feel that, "From the standpoint of national policy, consideration must be given to the possibility that in the future a more than sufficient supply of Ph.D.'s for most traditional uses can be trained in the graduate programs of, say, 50 or so top-rated institutions."

This study is important in several ways. It is the last reasonably comprehensive rating of graduate programs. The ratings of this study are sometimes used to justify maintaining or increasing budget allocation. In these instances, these ratings are being used as an outcome proxy. In addition, these ratings are used in other studies to provide a quality adjustment to other outcomes (e.g., doctorates awarded). The results of this study are both controversial (mostly because they are based solely on subjective opinions) and outdated. Still, they continue to be used as the best alternative in studies of graduate education.

See also: Topic 20: Student Characteristics and Development; Topic 17: Research and Research Administration; and Topic 5: Economics, Subtopic 4.0–Economic Impact of Higher Education on Students.

20:1.1/77 Four Critical Years: Effects of College on Beliefs, Attitudes, and Knowledge, Alexander W. Astin, 293 pp. (Jossey-Bass, San Francisco).

20:1.3/77 Investment in Learning: The Individual and Social Value of American Higher Education, Howard R. Bowen, 507 pp. (Jossey-Bass, San Francisco).

1.2 Recommendations

16:1.2/76

Improving Educational Outcomes, New Directions for Higher Education, No. 16, Oscar T. Lenning, ed., 105 pp. (Jossey-Bass, San Francisco).

This sourcebook consists of five articles. Leonard L. Baird writes of "ways that educators can improve the campus environment to promote student learning, with special attention on collecting the facts before trying possible remedies." H.D. Schalock reviews "evidence about the effectiveness of old as well as new approaches to instruction" and provides "a preview of likely approaches in the future." William Moore, Jr. describes "techniques for increasing the learning of poorly-prepared students, including changes in administrative and faculty attitudes." Ernest G. Palola and Timothy Lehmann relate their experience with the Program Effectiveness and Related Cost (PERC) system being used at Empire State College and describe how it "is contributing to informed decisions about educational outcomes." Finally, Lenning comments on "the evidence regarding improved learning and about the role of research and evaluation in further improvements."

One very useful feature of this sourcebook is the lengthy references which are provided at the end of each chapter. In addition, Lenning provides a guide to helpful literature in four areas: attrition/retention; developmental outcomes; innovation/instruction; and student characteristics. This sourcebook is an important addition to the literature on higher education outcomes. It is the only major work on how to go about improving higher education learning outcomes that covers a broad range of approaches. Almost all of the other literature in this area either emphasizes methodology, reports findings, or focuses on one particular improvement strategy.

See also: Topic 12: Institutional Role and Mission for relevant, related references.

1.3 Methodology

16:1.3/78

Measures of Institutional Goal Achievement, Leonard C. Romney, 57 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

One of the missing links in higher education is that between institutional statements of goals and specific measures of outcomes. It is important in establishing this link that goals be translated into specific outcomes that will indicate the extent to which institutional goals have or have not been achieved. This study attempts to achieve this translation.

Some 1,150 faculty, administrators, and trustees at 45 institutions of six kinds participated in this study. They were asked about their institution's goals and about how progress toward those goals should be measured. Three general findings emerged: 1) Goal and measure preferences generally varied across institutional types, not among trustees, faculty, and administrators; 2) Traditional process measures of institutional performance, such as student-faculty ratios and expenditure patterns, were rejected by almost all categories of respondents; and 3) Objective measures pertaining to such impacts of higher education as satisfaction, growth, and value added were most preferred by the study population.

Results of the study are reported by the six types of institutions studied: public doctorate-granting universities, private doctorate-granting universities, public comprehensive universities and colleges, private comprehensive universities and colleges, liberal-arts colleges, and 2-year colleges. Results are reported for the respondents' judgments on the appropriateness of 20 different goal areas for their type of institution. These goal areas conform to the Institutional Goal Inventory developed by the Educational Testing Service. In addition, results on appropriate measures of progress are reported by goal area and type of institution. Differences between faculty, administrators, and trustees on appropriateness of goal areas and on preferred measures of progress are explored.

The study concludes by identifying 14 types of information that would provide acceptable indications of progress for the seven goal areas rated as most important for each of the six types of institutions surveyed. In addition, this information generally would be acceptable to all three types of respondents. The 14 types of information that would accomplish this are:

- Student ability to apply knowledge
- Continuing active intellectual involvement of former students in other than formal, advanced study
- Course offerings and institutional opportunities pertaining to the development of individual goals, values, and personal growth
- Students and/or former students expressing concern for human welfare and well-being.
- Employer satisfaction with former students' vocational or professional training
- Scholarly works produced by graduate students and/or former graduate students considered suitable for publication
- Basic research publications or other results of scholarly effort produced by students or faculty members during the past year
- Evaluations and perceptions of members of the community regarding the quality of institutional services available to them
- Existence of special courses and programs to meet the needs of particular groups of students
- Institutional policies and procedures developed to protect the exercise of academic freedom by faculty and students
- Attendance and participation by faculty in the faculty senate or similar body
- Faculty and staff perceptions and evaluations of internal morale
- Student and/or faculty attendance at cultural activities sponsored by the institution
- Impacts of modifications made in courses and programs

16:1.3/77-1

Identifying and Assessing Needs in Postsecondary Education: A Review and Synthesis of the Literature Review Edition, Oscar T. Lenning, Edward M. Cooper and J. Robert Passmore, 126 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

One approach to the establishment of goals as part of various institutional and extra-institutional planning processes is the use of formalized needs assessment. Formalized needs assessment can help in establishing which institutional outcomes would best address the identified needs of the constituencies the institution serves. To a large extent, outcomes and needs refer to the same thing. Institutions use the term outcomes, while constituents use the term need. Lenning points out that:

> Most colleges have from their founding endeavored to understand the communities and students they serve, and how to best meet their needs, but usually such assessment efforts have been subjective, unsystematic, and ad hoc. During the 1970's, however, a significant body of knowledge has been building that can help institutions to identify the needs of the constituents they serve, and to evaluate those needs in a much more effective manner.

This document is intended to serve several audiences and purposes including individuals at the State and Federal levels by providing them with an overall conceptual framework that could help guide their needs assessment efforts. The document attempts to organize and summarize "all information that could be found about needs assessment and the state-of-the-art as it applies to postsecondary education."

While this is not a "how-to-do-it" manual, it is an important background document for those planners and others who are interested in the emerging topic of needs assessment. A wide variety of approaches to needs assessment are reported on. These descriptions should help in making various individuals aware of alternative approaches to actual studies of needs.

16:1.3/77-2

Increasing the Public Accountability of Higher Education, New Directions for Institutional Research, No. 16, John K. Folger, ed., 99 pp. (Jossey-Bass, San Francisco).

This sourcebook reviews recent efforts by States to build outcome considerations into their higher education practices. The emphasis is on describing and analyzing actual experience in specific States, rather than on the development and discussion of theoretical possibilities.

Three specific approaches to obtaining "more accountability and more effective performance from public institutions" are examined—performance budgeting, performance audits, and program reviews. A performance budget is defined as "one that bases at least some funding on the outcomes or quality of the budgeted activity." A performance audit is "an assessment of the effectiveness of an activity or organization in achieving its goals and objectives." A program review is "an assessment of the need for and the effectiveness of a proposed or existing program." Collectively, then, these approaches are concerned with a closely-related set of concerns –concerns about outcomes, quality, effectiveness, goals, objectives, and needs.

State-Level Performance Budgeting is reported by Robert J. Barak, Robert O. Berdahl, Marvin W. Peterson, J. Michael Erwin, and Richard Wilson. Recent developments in Hawaii and Washington are cited. "Legislative Program Evaluation" is reviewed by Berdahl with Wisconsin and Virginia serving as specific examples. Barak addresses the topic of "Program Reviews by Statewide Higher Education Agencies," with Florida and New York as illustrations.

John K. Folger, in his concluding article, provides the following useful analysis of this theory: First, the interest of public officials in greater accountability of higher education will probably increase. Second, accountability based only on fiscal considerations is no longer sufficient; instead, accountability for results and effective performance is now expected. Third, the application of performance measures in higher education creates special problems because of the historic autonomy of colleges and universities regarding their academic programs and functions; yet if an audit or review is performance based, it must deal with the evaluation of academic programs. And fourth, so far there is little agreement about how much of any assessment or review can be left to the institution and how much should be undertaken by other State agencies–and by which agencies, at that.

From this analysis it is clear that State-institutional relationships are entering a new phase. In this phase, productivity considerations will play an increasingly important role. This sourcebook does an excellent job of capturing the substance and tone of this phase in key States.

16:1.3/77-3

A Structure for the Outcomes of Postsecondary Education. Oscar T. Lenning, Yong S. Lee, Sidney S. Micek, and Allan L. Service. 72 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

This document describes the development of a system designed to organize information about intended and/or actual postsecondary education outcomes in an effective way for purposes of classification, analysis and decisionmaking. The conceptual foundation of the structure describing the attributes and other factors important to understanding of educational outcomes is described, a proposed structure is provided, and principles and criteria for developing or evaluating any outcome structure are identified. This work is based on a thorough review of previous attempts to structure educational outcomes (see also 14:2.2/77-3) and six years of research by the National Center for Higher Education Management Systems on outcomes.

The authors justify the need for a structure such as theirs by pointing out that:

> Having a wide variety of outcome information without any structure is analogous to possessing a file cabinet in which the contents are randomly arranged. Similarly, without agreement on a common language and context for outcomes, it is difficult for institutional officials to communicate succinctly how their institution and program differs from its counterparts. An effective outcome structure can be of assistance to postsecondary education planners and managers for those purposes as well as for identifying needs, developing goals, translating goals into concrete objectives, setting priorities and plans, and evaluating institutions and their programs.
>
> The potential volume of outcomes information in postsecondary education is quite formidable and poses a significant barrier to using outcome information in institutional planning and management. Although a number of attempts have been made to develop structural systems for organizing outcomes information, all of them have so far proved inadequate to meet the practical need.

From an analysis of six attributes or characteristics of an educational outcome and other factors the authors evolve an outcomes structure which has three dimensions: audience, type of outcome, and time. These dimensions are defined as follows:

> audience–the persons, groups, or entities that receive and/or are affected by (or which are intended to be affected or to receive) the particular outcome
>
> type of outcome–whether or not the outcome involves a change in status (maintenance versus change) and the basic, specific entity that is maintained or changed
>
> time–time frame in which outcome occurs or is intended to occur

Each of these dimensions is disaggregated. For example, the audience dimension is disaggregated into the following categories: individual/group clients, interest-based communities, geographic-based communities, aggregates of people, and other audiences. Each of these categories is then further disaggregated into a set of subcategories. The type-of-outcome category is broken down into five major classifications: economic outcomes; human characteristics outcomes; knowledge, technology and art form outcomes; resource and service provision outcomes; and other maintenance and change outcomes. Each of these categories is then further disaggregated into two additional levels of detail. An important feature of this structure is that a specific numerical coding scheme is suggested that allows a particular outcome to be classified with respect to the three dimensions. This coding structure facilitates comparisons across units and time.

A series of useful appendices are included in the document. For example one of the appendices identifies and categorizes over 80 previous attempts to structure educational outcomes and outcome-related concepts. Another suggests some specific outcome measures that could be used for each type of outcome included in the suggested structure.

As outcome considerations begin to be routinely built into planning and other higher education processes, it is important that certain conventions be adopted. This document is important because it represents one well-considered effort to provide such a convention for higher education outcomes. This suggestion should be a valuable starting point for many institutions and agencies within higher education.

2.0 COSTS

2.1 Empirical Studies

For information relating to this subtopic see the following: 9:6.0/A-5 *Higher Education Prices and Price Indexes*, D. Kent Halstead, 114 pp. (U.S. Department of Health, Education, and Welfare, U.S. Government Printing Office, Washington, D.C.); *Higher Education Prices and Price Indexes: 1978 Supplement*, Halstead, 48 pp. (National Institute of Education, GPO, 1978)

Topic 9: Finance, Subtopic 5: Financial Condition of Institutions

2.2 Recommendations

16:2.2/76

Increasing Productivity in the Community College, Bill J. Priest and John E. Pickelman, 36 pp. (American Association of Community and Junior Colleges, Washington, D.C.).

This report describes the procedure used by the Dallas County Community College District (DCCCD) to increase productivity in the District's four colleges. In the author's words, "it is an accounting of the experiences of one multi-college community college district in its struggle to identify, implement, and evaluate measures which increase efficiency while either maintaining or improving the effectiveness of each of its operations." While this document describes the overall process used by the District, most of the examples come from Richland College, one of the DCCCD campuses.

Having looked at various alternative ways to approach productivity improvement efforts, DCCCD chose to examine "operations to determine whether or not there are areas where resources can be used more efficiently. It analyzes both instructional and support services to determine where the 'fat' is and where adjustments can be made which result in savings but do not produce a qualitative sacrifice."

Richland College's efforts were guided by a cycle consisting of eight phases. These phases were: (1) recognition/acceptance to increase productivity, (2) mobilization, (3) examination of operations/work stations, (4) generation of recommendations to increase productivity, (5) evaluation of productivity recommendations, (6) implementation/rejection, (7) monitoring gains/losses, and (8) rewards.

This study is of interest because it bears a striking resemblance to productivity approaches that are commonly used in industry but rarely in higher education. In fact, business leaders were involved in designing the project. Productivity improvement techniques such as work measurement, time and motion studies, and process flow charting were used. These are industrial engineering techniques which are seldom attempted in higher education. Typical of industry studies of this genre, the focus of this study was on micro improvements. The authors note that, "There is not one feature of the college, whether it be the method used by the groundsman to trim his plants or the way the instructor organizes the fifty-minute class periods, that cannot be improved."

While all aspects of the institution were examined, the non-academic or support functions "proved most conducive to resource efficiency." This is not surprising since the industrial engineering techniques employed were developed to aid in productivity improvement in areas such as these. They were not developed to apply to less tangible areas such as executive management and instruction. DCCCD did look at instruction and, for example, found that "the management of time . . . was just as crucial to the performance of an instructor as it was to the office clerk."

16:2.2/75

Institutional Efficiency in State Systems of Public Higher Education, Fred F. Harcleroad, 48 pp. (American Association of State Colleges and Universities, Washington, D.C.).

This study is the outcome of the most recent effort of the American Association of State Colleges and Universities to examine and comment on the effects of State-level governing and coordinating boards on public institutions. This has been an ongoing concern of AASCU since 1961. "In this study, the investigator has made a beginning attempt to determine whether state regulatory-type agencies for higher education, either consolidated governing boards or coordinating boards, have had measurable effects on institutional effectiveness and efficiency."

The major emphasis in this study is on impacts on institutional efficiency. It includes an "analysis of claimed efficiencies and possibly unrecognized inefficiencies of statewide system operations. . . ." Analysis relied on three sources of information. First, the opinions were sought from institutional presidents. Second, "where possible, data were secured regarding actual costs, either savings or added costs which are the result of the institutions' membership in a coordinating or governing system." Finally, comparisons were made between large-scale systems of higher education and business organization of multicompanies and conglomerates.

An extensive questionnaire was administered in the 1974-75 academic year to the 317 member institutions of AASCU. One-hundred and eighty-seven institutions provided timely, usable replies. Nine areas were addressed: "(1) type and classification of the organizational pattern; (2) relationships with executive offices; (3) long-range planning; (4) academic affairs; (5) budget development; (6) fiscal policies and implementation; (7) personnel policies and their implementation; (8) capital outlay and construction; and (9) selection of administrative personnel." Opinions as well as case examples were requested. The author notes that "the trend of the case examples points toward increased costs and inefficiency in such areas as purchasing, personnel, and construction."

Six specific recommendations were put forth. These recommendations dealt with: (1) the distribution of authority between institutions and external agencies; (2) the need for decentralized modes of operations; (3) the need for State agencies to stress planning rather than operational functions; (4) making budget allocations to institutions on a lump sum basis; (5) keeping personnel decisions at the campus level; and (6) expediting constructional capital equipment projects by involving institutional representatives in all phases of these projects.

16:2.2/72

The More Effective Use of Resources: An Imperative for Higher Education. Carnegie Commission on Higher Education, 201 pp. (McGraw-Hill Book Co., New York).

In the Commission's words: "The central thrust of this report is that total institutional expenditures of higher education must be, should be, and can be reduced by nearly $10 billion per year (in 1970 dollars) by 1980 as compared with the costs which would be incurred if the trends of the 1960s were to be continued; that expenditures should be held to a level of $41.5 billion as against $51 billion per year . . . We seek to show both why this reduction of 20 percent needs to take place and how it can be accomplished without any general deterioration in the quality of higher education."

The Commission suggests that higher education accomplish this most ambitious undertaking by three types of savings: (1) reduce the number of students, (2) make more effective use of resources, and (3) take advantage of "windfall" opportunities. The number of students is to be reduced by "accelerating programs and reducing the number of reluctant attenders." Resource use is to be improved in eight specific ways: Halting creation of any new Ph.D. programs and concentrating Ph.D. training and federally supported research in fewer institutions; Achieving minimum effective size for campuses and departments; Moving towards year-round operation; Cautiously raising the student-faculty ratio; Reexamining the faculty teaching load; Improving management; Creating more alternatives off campus; and Establishing consortia among institutions and merging others.

The "windfall" opportunities foreseen by the Commission were that: (1) faculty salary increases would slow down, (2) enrollments would shift toward lower cost 2-year colleges, and (3) research expenditure increases by the Federal Government would slow down.

The Commission specifically thought it unwise to attempt to improve efficiency by avoiding or delaying necessary maintenance, cutting back on library expenditures, making student aid less available, and relying too much on transient, low-paid assistant professors. Moreover, the Commission spoke out against "state interference with internal budgeting details and arrangements such as required teaching loads." In short, the Commission warned that "Neither short-run expediency nor long-term external bureaucratic interference are effective solutions."

Achieving effective use of resources while preserving the "spirit of the academic enterprise," the Commission points out, is going to be a complex matter. The Commission sees solutions in: "(1) general tests of performance and general formulas for support by the states, (2) greater reliance on the market . . . , and (3) greater self-discipline within the academic enterprise, a greater sense of responsibility for the effective use of resources, . . ."

This report is an important one. Today, several years after it was issued, none of its many recommendations has been universally or even widely adopted. Yet each of its recommendations is still being discussed and in many cases experimentation relevant to its recommendations is going on. Despite the passage of time, the Commission's recommendations retain their relevance and their potential impact.

16:2.2/71

Efficiency in Liberal Education, Howard R. Bowen and Gordon K. Douglass, 151 pp. (McGraw-Hill Book Co., New York).

This study is subtitled "A Study of Comparative Instructional Costs for Different Ways of Organizing Teaching-Learning in a Liberal Arts College." The purpose of the study is "to explore the possibility of improving educational quality while reducing its costs." The costs of six different modes of instruction are compared at a hypothetical small liberal arts college of 1,200 students and 100 faculty members.

In the authors' words, if a mode of instruction is to affect cost, it will ordinarily do so by changing inputs in one or more of the following ways: (1) It may substitute low-cost labor for high-cost labor; (2) It may increase intensity of labor usage; (3) It may substitute student initiative for faculty supervision; (4) It may substitute capital for labor; (5) It may intensify utilization of capital; (6) It may substitute low-cost capital for higher-cost capital, (7) It may change curricular mix; (8) It may reduce non-instructional services; (9) It may spread overhead costs by increasing the scale of operation.

The six specific modes of instruction which are compared are: a *conventional plan*, variations of which are in use at most independent liberal arts colleges; a modified version of the *Ruml plan*, featuring a few large lecture courses; an *independent study plan*, which puts major learning responsibilities upon students; a *tutorial plan* designed by David Baken; and a plan of individual instruction linked to modern teaching-learning equipment, referred to in this study as the *Kieffer plan*; and the *eclectic plan*, a mode of instruction designed by the authors themselves.

The eclectic approach, while "an amalgam of the other methods," is the approach which is ultimately endorsed by the authors. The analysis of the other five plans showed that the independent study approach had the best potential for both lowering costs and raising instructional quality as compared to the conventional plan. The Ruml plan also showed promise in this respect.

While this study was done in the context of a small, liberal arts college, its methodology is clear enough that it could be adapted to other types of institutions. This study suggests that there is a good possibility that the conventional approach to instruction can be improved upon both with respect to cost and quality. This important finding, backed up by appropriate numerical results, deserves widespread consideration.

2.3 Methodology

16:2.3/78

A Study of Cost Analysis in Higher Education, Volumes 1-4, Carl R. Adams, Russell L. Hankins, Gordon W. Kingston, Roger G. Schroeder, 748 pp. (American Council on Education, Washington, D.C.).

This massive, well-documented study is a major contribution to the literature on higher education costing. It is a current and authoritative description of how costing is being used in institutions of higher education. Financed by the Ford Foundation, it consists of four volumes: I, The Literature of Cost Analysis in Higher Education (Adams, Hankins, Schroeder); II, The Production and Use of Cost Analysis in Institutions of Higher Education (Adams, Hankins, Kingston, Schroeder); III, Site Visit Descriptions of Costing Systems and Their Use in Higher Education (Schroeder, ed.); IV, The Future Use of Cost Analysis in Higher Education (Adams, Kingston, Schroeder).

The first of these volumes identifies and organizes the literature of cost and cost analysis in higher education. The search for literature is restricted to that designed "to supply institutional administrators with data for making informed rational decisions." Significantly, the literature of "macro educational planning and financing" is not covered in the review. Neither are opportunity costs and societal and individual "out-of-pocket" costs. The emphasis is principally in the area of instruction. Finally, the authors do not address the whole area of the benefits of education nor cost-benefit analysis.

The authors in Volume I develop useful schemes for distinguishing among various cost concepts and types of cost analysis. The discussion of the literature is organized into four major categories and several subcategories: Resource Acquisition (estimation of current fund requirements, pricing, cost recovery); Resource Allocation (allocation to organizational unit, object budgeting, cost-income budgeting, internal or transfer pricing, programmatic allocation); Resource Management and Control (fiduciary accounting, cost accounting–variances, responsibility accounting); Accountability.

Volume II is the "keystone" monography. Its aim is to present and analyze data collected from administrators and information system specialists in colleges and universities regarding the current use and usefulness of cost information. The survey work was in two parts. There was an in-depth, on-site survey of 21 "experienced institutions." Then a mail survey was sent to almost 500 institutions. The authors report their 25 major findings in four major areas: 1) Data Availability, 2) Production of Cost Information, 3) Institutional Use of Cost Information, and 4) Overall Observations and Recommendations.

Volume III describes the site visits made to 17 institutions in four States (Colorado, Florida, Michigan, and Ohio). Volume IV is concerned with the future use of cost analysis in higher education. It draws upon the extant literature, the "experience-based" judgments of the authors, and a

Delphi study utilizing a panel of 120 individuals. The results of this study, which utilizes a 20-year time frame, were presented for institutions, States, and the Federal Government.

An interesting dichotomy was observed from these studies. Universities undertake detailed cost accounting to justify indirect cost recovery on Federal grants and contracts, as negotiated rates depend on such justifications. The resulting revenue, subtracted from research funds awarded, is important to university administration as a budgetary component. For academic management, however, these universities are generally chary of producing and using detailed cost figures to assist academic policy decisions.

The authors are not optimistic that institutions of higher education will develop methods of coping with difficult cost-allocation problems where joint processes (as in graduate teaching and closely associated research by teams of graduate students and faculty) are the rule.

16:2.3/77

Cost Behavior Analysis for Planning in Higher Education, Daniel D. Robinson and Frederick J. Turk, 101 pp. (National Association of Colleges and University Business Officers, Washington, D.C.)

This report was written in response to a concern by the National Association of College and Business Officers (NACUBO) that historical costs were indiscriminately and often inappropriately being used to project costs as part of the planning process. This report is "devoted to describing the process of analyzing behavior of costs and revenues in higher education."

The major points of this study are: 1) Alternative courses of action consist of changes in (a) goals, specific objectives, programs, (b) policies, and (c) organizational structure; 2) When examining the economic consequences of many alternatives, administrators must consider the effect on revenue as well as on cost; 3) Estimating future economic activity [involves] determining the fixed and variable components of total cost for the alternatives selected at different levels of volume; 4) Institutional decisions, as well as environmental conditions, which are beyond the institution's control influence cost behavior; and 5) Noneconomic information about programs, students, faculty, and other considerations should be examined when making decisions about the future.

One of the most useful appendices provides examples of decision factors which affect the costs for selected organizational entities. Some 18 institutional areas are cited. For example, some 15 separate decision factors are identified which would affect the projection of library costs. Some 11 decision factors are identified which would affect the projection of

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financial-aid administration costs. Other appendices provide numerical examples of various aspects of projecting costs and revenues.

This report should be helpful to planners who are concerned with the adequacy of their methods of projecting costs. Although this report is not a procedures manual for performing cost behavior analysis, it does discuss in clear terms the concepts underlying such analysis and the application of these concepts to institutions of higher education.

3.0 COST/OUTCOME RELATIONSHIPS

3.1 Empirical Studies

16:3.1/77-1

Understanding Joint Production Processes: A Convex Hull Approach, Robert G. Gray, 126 pp. (Unpublished doctoral dissertation, University of Colorado, Boulder).

The primary purpose of this research was to develop a new way of identifying the most efficient producers–in this case from among university science departments–where there are multiple inputs and multiple outputs to be considered. The existence of multiple outcomes and inputs, of course, is common in higher education. Multiple outcomes present difficult analytical problems, especially in estimating how inputs relate to outputs (i.e., in the estimation of production functions). This research developed a new way of handling multiple outcomes and inputs that avoids most of the irksome simplifying assumptions required by other methods.

In a sample study, this new approach was applied to all the Ph.D.-granting departments of chemistry in the United States. Some 169 departments out of a total of 183 provided data on: (1) number of faculty, (2) the research and development budget, (3) the number of undergraduate degrees reported, (4) the number of graduate degrees awarded, and (5) the number of publications produced by faculty within the department. Separate results are presented for small (less than 17), medium (between 17 and 26), and large (over 26) departmental faculties.

It is especially interesting that, on the average, the most efficient departments produced *more of each of the outputs* (undergraduate degrees, graduate degrees, publications) while using *less of each of the inputs* (faculty and research and development dollars) than did the least efficient departments. This result was true for both medium and large departments. The only change here was that the less efficient departments, on the average, had few research and development dollars to work with. This is a most astounding finding. While it is not conclusive because more variables may need to be taken into account, it does demonstrate that there are enormous variances in the productivity of Ph.D.-granting chemistry departments. This limited study suggests that a parallel series of studies of other types of departments could produce findings which would have important implications for higher education and related planning.

16:3.1/77-2

Procedures for Determining Historical Full Costs, National Association of College and University Business Officers and National Center for Higher Education Management Systems, 202 pp. (National Center for Higher Education Management Systems, Boulder, Colo.).

This manual describes the way to conduct a study of instructional and institutional costs, as outlined by the Information Exchange Procedures (IEP) of the National Center for Higher Education Management Systems (NCHEMS). The purpose of IEP is to suggest a "a set of standard definitions and procedures for collecting information about disciplines and student degree programs, outcomes of instructional programs, and general institutional characteristics." This information is intended to be useful for internal planning and management problems and for inter-institutional comparisons. The costing procedures and definitions recommended in this manual are described as "targets" which may be easier for some institutions to realize than others.

Three kinds of costing are discussed–full, variable, and standard. This manual presents procedures only for full costing. These full-costing procedures "calculate the average direct, indirect, and full cost for instructional disciplines and student programs." A nine-step process for conducting a historical full cost study is developed and described. In addition, this manual describes NCHEMS Costing and Data Management System (CADMS). CADMS is a computer program designed to facilitate a full costs study using the procedures described earlier in the manual.

The appendix of this how-to manual contains a reprint of the 1975 NACUBO article on "Fundamental Considerations for Determining Cost Information in Higher Education." This article covers a number of important topics, including: costing terminology, costing and financial accounting, cost determination methods and approaches, indirect cost allocation, types of cost analysis, costing issues, and costing standards.

This package of suggested procedures, supporting computer software, and *overview article* is valuable for it presents in clear, concise language the necessary concepts, tools, and caveats for someone who is planning or considering a study of historical full costs on an institutional basis.

16:3.1/72

The Production and Cost Behavior of Higher Education Institutions, Daryl E. Carlson, Ford Foundation Program for Research in University Administration, 181 pp. (University of California, Berkeley).

This study focuses on a sample of 673 four-year higher education institutions. Its purpose is to identify and analyze frontier institutions, those that are producing more outputs than institutions utilizing similar amounts of inputs. The identification of frontier institutions deviates from the usual procedure in production function studies of constructing a hypothetical, average institution.

Some 20 variables are utilized in the study. These include eight input variables, four enrollment variables, and eight institutional characteristic variables. Institutions are analyzed and reported on according to seven categories: (1) public, doctoral-granting institutions with emphasis on research, (2) private, doctoral-granting institutions with emphasis on research, (3) public, comprehensive colleges that offer a liberal arts program as well as several other programs, (4) private, comprehensive colleges that offer a liberal arts program as well as several other programs, (5) public, limited comprehensive colleges that offer a liberal arts program as well as at least one professional or occupational program, (6) private, highly selective, liberal arts colleges, and (7) private, less selective, liberal arts colleges.

The results of the study are most interesting. For example, on the input side, the most efficient institutions use between 20 and 76 percent (depending on the type of institution) fewer senior faculty than the average institution of the same classification. On the output side, the most efficient, as compared with the average, have from 13 to 55 percent (depending on the type of institution) more full-time undergraduates. Another finding of considerable importance is that "it is not valid to isolate one activity of the institution and to analyze the production and cost relationships associated with that activity in isolation from all the other activities of the institution." This finding is based upon an analysis of the marginal costs of undergraduate students for institutions who have different levels and mixes of enrollment and different research and public service involvements.

This study has many ramifications for planning. First, it raises the questions of whether planning will be based on the standard of an average institution or an efficient institution. Second, it raises the question of what factors are associated with efficient as compared to just average performance. Lastly, the empirical point is made that various types of institutions have quite different production relationships (both average and efficient) which must be taken into account in the planning process.

See also: 9:6.0/71 Resource Use in Higher Education: Trends in Output and Inputs, 1930-1967, June O'Neill, 106 pp. Carnegie Commission on Higher Education, (CCHE, Berkeley, Calif.).

5:2.3/76-1 Education as an Industry, Joseph N. Froomkin, Dean T. Jamison, and Roy Radner, eds., National Bureau of Economic Research, 489 pp. (Ballinger Publishing Co., Cambridge, Mass.) Particularly Chapter One, "The Ph.D. Production Process," by David W. Breneman.

3.2 Recommendations

16:3.2/77-1

"Direct and Incentive Planning Within a University," Stephen A. Hoenack, 14 pp. *Socio-Economic Planning Science*, Vol. II, No. 4.

This study is directed at exploring the proper mix of "direct" and "incentive" planning within higher education. Direct planning is defined as providing university administrators or designated committees with the discretion to allocate funds to academic units. Incentive planning results from tying the budgets of decentralized units to their performance in meeting the demands of their constituencies and from making the units responsible for differences between their budgets and their costs. While the direct focus of this study is on the blend of direct and incentive planning within an institution, the study has relevance for the similar question at the State and Federal levels. The specific example used in this study for purposes of reporting empirical results is the University of Minnesota.

The author explores the concept of a "responsibility center budgeting system (RBS) as a device for implementing the concept of incentive planning." "The most important characteristic of a RBS is that colleges [within an institution] would be permitted to retain excesses of income over costs (additional discretionary funds) and would be responsible for excesses of costs over income." The author's analysis is that RBS would create incentives to: (1) "increase enrollments, especially in programs with strong demand and/or low costs," (2) develop "curricula for non-traditional education programs," especially for "faculty with comparative advantages in instruction," (3) reduce both direct and support costs, (4) reduce the participation in decisions of "unaffected and uninformed parties," (5) possibly increase discretionary funds by a "reduction in academic quality or a departure from the college's academic mission," and (6) possibly avoid "programs with high costs relative to demands." The author points out that these latter two incentives, in his opinion, are perverse as contrasted with the other "beneficial" incentives.

The author concludes that

> A carefully chosen combination of direct and incentive planning can enable universities to adapt advantageously to their changing environments. A number of characteristics of universities tend to enhance the potential role of incentive academic planning, including the diversity of goals of individual academic personnel, their non-authoritarian traditions, and the difficulty of measuring, and the impossibility of administratively valuing, their outputs. Further enhancing the promise of incentive academic planning is that decentralized academic personnel have their own specialized constituencies to whom they can be held directly accountable.

16:3.2/77-2

"The Incentive Structure of a University," Richard M. Fenker, 10 pp. *The Journal of Higher Education,* Vol. XLVIII, No. 4, July/August.

Higher education institutions are characterized by considerable autonomy and freedom of choice on the part of both students and faculty. Because of this, the assembly line analogy where inputs can be simply and reliably linked to outputs is not applicable. Rather, a series of more complex phenomena need to be understood. One of these phenomena is the incentives and disincentives which are created for individual behavior. These incentives and disincentives need to be explicitly considered in the planning process.

The focus of this study is on identifying the incentive structure for faculty and how this incentive structure can be improved. An incentive structure is described as:

> An empirical framework for an organization which characterizes (preferably in mathematical terms) the relationships between specific behaviors of employees and the probabilities of receiving various incentives. The term incentive is used very broadly and includes a wide variety of noneconomic 'rewards' commonly used in academic settings as well as the more obvious raises or promotions.

The specific example used is that of a "private university concerned with improving the quality of its teaching;" however, the issues and methodology are relevant to both public and private institutions.

The author identifies seven questions which need to be answered vis-a-vis an institution's incentive structure:

1. What behaviors are expected of faculty?
2. How does the importance of these behaviors vary across colleges, departments, or other subgroups?

3. What incentives are available and how important or valuable are they to faculty?
4. How does the importance of incentives change as a function of academic unit or demographic divisions (e.g., rank, years of experience) of faculty?
5. What connections has the administration established between incentives and specific behaviors?
6. How does the university's operational structure compare to the faculty's perceived and ideal structures?
7. What changes need to be made or can be made to bring faculty expectations more into congruence with university objectives or vice versa?

16:3.2/71

Less Time, More Options, Carnegie Commission on Higher Education, 45 pp. (McGraw-Hill Book Co., New York).

There are nine major themes of this report:

- Reduce the length of time spent in undergraduate college education by one-fourth
- Give young people more options (a) in lieu of formal college, (b) to defer college attendance, (c) to get service and work experience, and (d) to alter directions while in college
- Make opportunities for higher education available to persons throughout their lifetime
- Make greater use of the Master of Philosophy and Doctor of Arts degrees
- Increase the number of accepted degree levels from two (the B.A. and Ph.D.) to four (A.A., B.A., M. Phil., and D.A., including Ph.D.)
- Reduce the emphasis on certification through formal higher education and reduce the number of specialized degrees (we now have about 1,600).
- Realize a reduction in projected operating expenditure of from 10 to 15 percent a year through these reforms
- Make higher education more accessible to women and older students
- Make it possible to mix higher education and work experience throughout a lifetime

The major themes of this report clearly anticipated and may have helped to precipitate some of the key issues which currently are being discussed and on which experimentation is taking place. Among these issues are: lifetime education, adult learning, new education and work patterns, and access for women. Other themes of this report have failed to materialize—

for example, reduced rates of expenditures, time-shortened degrees, greater use of new types of degrees, and reductions in specialized degrees.

This report also suggests how its recommendations can be implemented. A chapter spells out how various groups can assist in making these developments possible—the Federal Government, State governments, foundations, parents, students, professional associations, high schools, colleges and universities, The Council of Graduate Schools, the accrediting agencies, and the testing agencies. This chapter is interesting not only because it clearly demonstrates the many groups that have to cooperate if major changes of any type are to be made in the system of higher education. This discussion can serve as a good prototype for the kinds of systemic analyses that need to be part of all major productivity improvement proposals.

See also: Topic 6: Educational Communication and Technology; Topic 5: Economics, Subtopic 2.0 Incentives and Faculty and Institutions.

3.3 Methodology

16:3.3/77

A Review of Production Function Estimation for Higher Education Institutions, Daryl E. Carlson, 122 pp. (Graduate School of Education, Harvard University, Cambridge, Mass.).

"The purpose of this paper is to review many of the studies that have attempted to estimate various dimensions of higher education production and cost behavior. This review will critically examine the data, methodology, and results of these studies."

The author divides production and cost studies into four useful categories: descriptive studies, regression studies, frontier studies, and synthetic studies. Descriptive studies "describe different production and cost situations . . . no effort is made to statistically or computationally relate one variable to another." Regression studies "attempt to statistically estimate behavioral relationships between two or more of the variables." Frontier studies "generate information about efficient and effective relationships between production and cost variables rather than average relationships as obtained from regression studies." Synthetic or "building block" studies "model a production process by decomposing it to a very basic level and then studying alternative ways of putting the pieces back together which will accomplish alternative mixes and levels of outputs." These four types of studies represent the alternatives available to planners and others for studying the production processes of higher education. Since these studies vary in character and in the type of information they produce, choices among the methodologies should be made with full appreciation for their strengths, weaknesses, and requirements (e.g., data, computational aids).

The author identifies and discusses the application of eight factors which must be considered, along with data and computational requirements, in making a choice among the various production estimation techniques. These factors are whether: 1) industry or individual institution studies are to be undertaken; 2) average or frontier estimates are desired; 3) explicit measures of the degree of efficiency are needed; 4) jointness among inputs and/or outputs is a consideration; 5) qualitative as well as quantitative considerations need to be taken into account; 6) output preferences are to be studied; 7) static or dynamic estimates are to be made; and 8) comparison or prediction is intended.

The author appropriately points out that these techniques differ not just in their statistical and computational properties, but in their policy implications. The type of study undertaken will determine the kind of information which is and is not available and, to a significant extent, the kind of issues which are and are not raised. Hence, the planner or analyst needs to carefully consider the policy environment in choosing among types of studies and in using the final results.

16:3.3/75

Measuring and Increasing Academic Productivity, New Directions for Institutional Research, No. 8, Robert A. Wallhaus, ed., 133 pp. (Jossey-Bass, San Francisco).

The editor in his introduction provides an interesting perspective on the importance of productivity in higher education. He notes that:

> All policy questions and all planning and management decisions in higher education are traceable to the underlying problem of improving the productivity of programs, institutions, and the educational system. That is, all decisions and policies are ultimately based on the common objectives of expanding or enhancing the benefits of higher education for individuals and society and at the same time delivering these benefits at the lowest possible cost.

This source book contains six articles. In "The Many Dimensions of Productivity," the editor discusses the "many definitions and perspectives that relate to the notion of productivity in higher education." Rick Hanushek, in his article, "Learning by Observing the Performance of Schools," notes that "It is amazing how discussions of productivity and efficiency in postsecondary education remain so thoroughly uncluttered by facts." He suggests how we might best go about the business of assembling the necessary "facts." "Examining Efficient Joint Production Processes" is another report on Daryl Carlson's continuing efforts to develop and apply analytical tools that can identify efficient institutions. Robert Staaf and

Wayne Kirschling address efficiency and productivity from a behavioral view. Their concern is that student and faculty productivity must be considered as an interdependent process. Furthermore, since students and faculty are accorded considerable freedom of choice, the design of incentive systems becomes crucial. "Productivity from an Interorganizational Perspective," written by Richard J. Meisinger, Jr., Ralph A. Purves and Frank A. Schmidtlein looks at State budgeting for higher education and "reveals some reasons for the gap between theoretical concepts of productivity improvement and state and institutional practices." In the concluding article, Witmer attempts to identify "Opportunities for Improving Productivity." He examines a broad range of possibilities including: class size, instructional techniques, student-institution fit, year-around operation, shifts to high-value programs, phasing out and closing down, time-shortened degrees, externalizing higher education, consortia and external resources, faculty-initiated curricular reform, faculty augmentation and transformation, and budget reductions and shifts.

16:3.3/72

Elements Related to the Determination of Costs and Benefits of Graduate Education, John H. Powell, Jr. and Robert D. Lamson, 291 pp. (Council of Graduate Schools in the United States, Washington, D.C.).

This study emanates from a resolution passed at the 1968 annual meeting of the Council of Graduate Schools (CGS). The purpose of the study was to "present in one volume a report on the state of development in areas of cost and benefit information." Hence, this document attempts to "identify the benefits of graduate education and to analyze 'accepted procedures and illustrative information concerning allocation of college and university costs.' " The authors also recognize that they are helping to take "a step towards standardizing cost allocation procedures and cost information."

This volume contains eight chapters. Chapter 1 deals with the issue of resource allocation in graduate education. Chapter 2 is devoted to outputs; Chapter 3, cost information. The topics of activity definitions, measuring academic manpower use, and opportunity costs of capital services are addressed in Chapter 4, and Chapter 5 looks at indirect cost allocations. Chapter 6 examines unit cost studies, Chapter 7 looks at four alternative ways of allocating research costs, and the last chapter looks at available information on the costs of graduate information. A very useful bibliography with 350 entries is included at the end of the document.

This is a rare study of the costs and outcomes of graduate education. As such, it is a valuable reference to planners and others who must deal with the special considerations it involves.

17

Research and Research Administration

Frederick E. Balderston

* * *

The research process has as its focus discovery and exploration of new concepts and findings that add to knowledge in science, humane letters, and the professions. University research and its management are of increasing institutional and public concern. The nation's research activities, of which university research is a significant part, contribute in numerous ways to the national welfare, yet many aspects of the role of research in higher education are matters of current controversy.

This bibliography focuses on the problems of organization of research activities; the relation of research to other educational functions in universities; and the requirements of facilities, personnel and administrative structure for the conduct of research. This emphasis is prompted by the existence of many large-scale, client-sponsored programs of applied or clinical research at universities, which offer special opportunities but also create problems of staffing, budgeting, and control.

Not covered in the bibliography are: 1) specific strategies for accomplishing research and research methodologies; 2) commercial research and service functions, though these may occasionally be conducted in universities; 3) individual creative scholarship that is an incident of the professorial role; and 4) the organization of research funding and the formulation of priorities by Federal and State agencies.

Research Classification. It is often important to understand how a specific research project or program fits into the total framework of knowledge and how it relates to other fields. It may fall within a single discipline, be cross-disciplinary, or be centered on a problem area or a client agency's interests. Research may also contribute directly in a major way to fundamental scientific or scholarly concerns, as, "basic research"; be an extension of basic knowledge; or concern applications to practical problems. In the applied areas, research may be concerned with public policy and social issues or may extend available technologies. Universities have traditionally concentrated on basic research. Large-scale, programmatic and client-centered research gives rise to problems in the university structure.

Research Organization and Structure. Universities have formalized in a variety of ways the organization of their research activities. Most adopt some form of separate "research units." However, some exceptionally large and supposedly distinct research activities have become essentially autonomous within the legal framework of the university itself. Some research organizations have evolved into complete independence from university operations. Designated Federal laboratories and institutions sometimes operate as consortia involving a number of universities as joint sponsors. With changing financial support and priorities, university organized research units (ORU's) and university-related research centers face important problems of maintaining their creative vitality and continuity.

Research Management and Policy. When research becomes more highly organized, it is necessary to define the roles of career researchers, postdoctoral research appointees, and other personnel involved in research and research administration. The relationships of these research personnel to regular faculty and administrative staff within the university are complex and changing. Universities also face important problems in the conduct of client-agency relationships for large-scale funding. Indirect costs is a complex issue involving funding agencies and the Federal and State governments. Evaluation of research as to quality, significance, and university priority is a growing concern in view of the stabilization of university fiscal resources. Finally, research and graduate education are strongly related to one another, particularly in the sciences and the health professions. Tighter funding and more restrictive controls in funded research may affect the viability of graduate education in some fields.

17:0 RESEARCH AND RESEARCH ADMINISTRATION

17:0/78-1

The State of Academic Science: Volume II-Background Papers, Bruce L. R. Smith and Joseph J. Karlesky, (Change Magazine Press, New Rochelle, N.Y.).

The second volume of the Smith-Karlesky study of the state of academic science consists of five essays commissioned to provide background for the larger work. These essays, together with an introductory chapter by the editors, present an excellent profile of the major issues that presently confront American academic science. The depth to which the subject matter is explored in each of these chapters and the timeliness of the materials warrant their separate, in-depth annotation in this bibliography.

Wolfle, Dael, "Forces Affecting the Research Role of Universities," pp. 7-60.

This first essay presents a synopsis of the major forces affecting the research role of American universities. A review of data from the mid-1960's to the present show significant changes in both the absolute level and the type of financial support as well as the imposition of more external controls on the conduct of research. From the mid-1970's, funds for research were found to have declined 25 percent for each full-time equivalent scientist and engineer employed in universities—even though the university portion of the total national research effort increased slightly. It was found that faculty members had to shift fields of research and find new areas of support. Interest in applied and targeted research also increased considerably while external controls designed to increase public accountability were imposed on all aspects of research. Wolfle finishes by discussing the impact of the funding changes on the future quality and diversity of research. He concludes that universities which were not able to build quality research programs during the sixties will likely never achieve high stature, although already vigorous programs of demonstrably high quality will be likely to maintain good research programs.

Baer, Walter S. "The Changing Relationships: Universities and Other R&D Performers," pp. 61-103.

This paper describes major trends in research funding over the past 20 years, focusing on the changing role of university research. Baer relies heavily on the National Science Foundation's annual reports and summarizes data on overall support, support to types of research and development (R&D) agency, (universities, Federal in-house laboratories, Federally-funded research and development centers, industrial firms, and other), sources of funds for research, and patterns of support to basic and applied research. He analyzes changes over the period in the research role of the different institutions and the types of research conducted in them. Baer concludes from the data that universities have strengthened their hold (vis-à-vis other R&D performers) in the conduct of basic research, but that other agencies have emerged as significant competitors for support of applied and policy research. Baer has done a major service to the research planner in this paper by highlighting the major policy issues through careful examination of funding trend data.

York, Carl M., "Targeted Research: An American Tradition," pp. 105-132.

This essay gives a broad historical overview of the organization and funding of American research from the time of the American Philosophical Society of Benjamin Franklin to the present. York focuses especially on the changes in Federal university relations during the past decade, and offers some evidence that funding for targeted research (defined as "a direct attack on a clearly specified problem") may threaten the long-term quality of university research. York sees the following as major threats: financial controls leading to lack of discretionary funds, personnel problems, and encroachment of Federal regulations on internal university policies.

Breneman, David W., "Effects of Recent Trends in Graduate Education on University Research Capability in Physics, Chemistry and Mathematics," pp. 133-162.

The author explores the thesis that downward trends in doctorate enrollment and production will have a negative effect on research capability and, ultimately, on university quality. Data showing enrollment trends in the fields of physics, chemistry and mathematics for those institutions which were rated in the 1970 American Council on Education study of graduate education are presented. The author then conducted a series of interviews with university faculty to gain insights into the qualitative impact of these enrollment trends. He found that the enrollment decline tended to be most severe at departments which were of lower quality ratings in the ACE studies. The short-term impact on research capability caused by lack of graduate research and teaching assistants differed by field because of different traditions for graduate research and undergraduate teaching needs in these fields. Fields that did not rely on graduate research assistantships to a substantial degree (such as mathematics) were found to be better able to reduce enrollments than those that did not. All fields, however, tried to maintain levels of enrollment sufficient to retain teaching assistants so that faculty research time would not be severely threatened.

The author concludes that current research capability in physics, chemistry and mathematics has not been seriously undermined at leading institutions by the changes occurring in graduate education from 1968-75. He further concludes that present doctorate production is "adequate" to meet long-term research manpower needs. The serious problem that he discovered, however, was not caused by doctorate production but by the prospective lack of tenured-position vacancies in non-expanding departments caused by the current age distribution of university research faculty. Lack of opportunities for scholarly appointments for young scholars poses a critical threat to the long-term vitality of the research enterprise.

Lakoff, Sanford A., "Accountability and the Research Universities," pp. 163-190.

This excellent article offers an overview of the problem research universities face through increased pressure for accountability, as well as some constructive ways to address the issue. First, the symptoms of increased pressure for accountability are described: increases of funds for targeted research and decline of general institutional grants; and threats to withdraw research funds for failure to conform to admissions, employment or other regulations. These factors imply an ominous erosion of academic freedom as they move authority responsible for decisions outside of the academy. The problems of improving academic accountability are especially difficult because of the unique problem in research caused by the lack of a predictable and identifiable successful path of performance. Lakoff argues that, on the whole, State and Federal officials have been supportive and have taken the need for different standards of accountability for academic institutions into account. He maintains universities need to take positive steps to improve the means of managing resources, especially in accounting, inventory management and recording of indirect costs.

17:0/78-2

Trends in the Organization of Academic Research: The Role of ORU's and Full-Time Researchers, Albert H. Teich, Graduate Program in Science, Technology and Public Policy, George Washington University, (GWU, Washington, D.C.).

To maintain academic vitality in the face of austerity and a declining annual number of faculty appointments and their research funders, universities can consider the strategy of enlarging their research organization and the numbers of non-faculty research professionals.

Teich assesses two variants: the greater use of organized research units (ORU's) that are integrated with academic activities within universities proper, and the further development of university-affiliated national laboratories, organized to be distinct from the campus departments and colleges but operated by a university or by a university consortium. Nonfaculty research professionals have had equivocal status relative to those holding regular faculty appointments, and Teich's study suggests prospects of increasing tension if universities and their funding sources expand on-campus ORU's and their research *cadres*. Teich recommends follow-up research on research career patterns and on the implications of Federal research funding policies.

Five universities' practices are summarized in appendices.

17:0/77-1

"Peer Review and the Support of Science," Stephen Cole, Leonard Rubin and Jonathan R. Cole, *Scientific American*, Vol. 237, No. 4, October, pp. 34-41.

This article on the peer review system used to evaluate research proposals gives a good look at both the organization of that process and the ways in which research proposals are judged. The authors did a year-long study of different aspects of the peer review system at the National Science Foundation. They conducted in-depth interviews with 70 people involved in all stages of the peer review process. In addition, they read a group of proposals and independently assessed their merits, which they then checked with the assessments reached through the peer review process. Finally, they conducted a statistical analysis of different characteristics of 1,200 applicants for basic NSF research grants.

The authors tested two hypotheses in their study: the "old-boy" hypothesis that proposals from a network of researchers are given preference: and that "rich get richer" hypothesis that funds are given to people who have received research awards before. Their analyses suggest that the peer review system is in general an equitable arrangement that distributes limited funds for basic research primarily (but not exclusively) on the basis of perceived quality. In particular, they did not find that the National Science Foundation's peer review system for basic science discriminated against noneminent scientists. They concluded that the scientific enterprise is an equitable *although highly stratified* social institution, where the individuals whose work is most favorably evaluated by their colleagues tend to receive the majority of research funding.

17:0/77-2

The Management of Federal Research and Development, MITRE Corporation, METREK Division, 134 pp. (MITRE Corporation, McLean, Va.).

This monograph summarizes papers and workshops of a survey of research managers and a follow-up conference, sponsored jointly by the National Institute of Mental Health, the American University, and the METREK Division of the MITRE Corporation.

Three agenda-forming statements are succeeded by eight invited papers, each of them impressively concise, on such topics as "Determining Scientific Priorities," by J. Thomas Ratchford; "Improving Policy-Making," by Laurence E. Lynn, Jr.; and "Conducting Useful Evaluations," by the late Marcia Guttentag. The book concludes with nine reports of conference workshops on research management topics.

This volume has numerous uses for the sophisticated reader. Candid anecdotes and personal "war-stories" provide illustrations of the many problems that researchers, research managers and policy-level administrators confront in Federal research establishments and Federally-supported applied research. Several invited papers contain valuable examples of how Federal research priorities and policies are developed or of the manner in which research managers confront changing patterns of governmental organization.

Laurence Lynn argues that more coherent and consistent governmental policy-making, not better research management as such, is the most important pre-condition for improved social research and development. He has chaired a three-year National Academy of Sciences review of social research.

Howard Davis of the National Institute of Mental Health analyzes several approaches to the design and conduct of research intended to produce useful change.

A. B. Linhares, of the U.S. Department of Transportation, analyzes structural problems of two kinds of technology transfer for Federal research and development. The first is the sponsoring agency's own direct use of research results in its subsequent operations, exemplified by the Department of Defense weapons research. The second is research sponsored by a Federal government agency but of use secondarily to others in government or civilian organization (a "spin-off"), or intended in the first place to be adopted by users other than the sponsor (for example, State and local governments' use of much of the Department of Transportation's research).

This monograph provides a uniquely rich and timely perspective on Federal research and development policies and management. For university policymakers and research professionals, it interprets in a fresh way the environment of Federal involvement in research, especially applied research: policy formulation, definition of objectives, resource allocation, research program management, evaluation and use of results. There are many useful hints for the practitioner interested in survival in a complex world of organizational competition and politically defined accountablility.

17.0/77-3

Science Indicators 1976, 1974, 1972, National Science Board, (National Science Board, Washington, D.C.).

These three National Science Board studies define indicators of the national and international health of the U.S. science establishment and use these indicators to provide quantitative evidence of composition, trends and problems.

The *1972* indicators study shows how resources for research were distributed and from what sources they came, and compares the role of colleges and universities with other types of research-producing organizations. A Delphi experiment was reported, showing assemblages of experts' views of what areas of social importance should be addressed by scientific research and what resources and developments of scientific capability were needed.

The *1974* indicators study portrayed in expanded detail the international position of American science and technology, and reported updated information on science funding, organization and personnel. Trends in science and engineering personnel, by discipline and types of employment, were analyzed in considerable detail, together with trends in the production by colleges and universities of newly-trained people.

The *1976* indicators study showed the continuing slippage of Federal research support and its many consequences, and also carried on the main categories of indicator presentation used in the two earlier studies. Outputs of industrial research and development, including patented inventions and a categorization of major innovations, received new and expanded treatment.

These three studies, with their analytical commentaries and wide-ranging data, provide indispensable background for the analyst of research organization, its efficiencies, and impacts.

17:0/77-4

The State of Academic Science: The Universities in the Nation's Research Efforts, Volume I - Summary of Major Findings, Bruce L. R. Smith and Joseph J. Karlesky, 250 pp. (Change Magazine Press, New Rochelle, N.Y.).

This book is the most complete recent treatment of the problems and prospects of university research. The review consists of a series of site visits and interviews at a group of major research universities as well as an investigation of recent literature to determine the role of university research in the nation's research effort and to diagnose the potential for continued health of university research. The authors provide a concise summary of current trends in the support and performance of academic research, including funding trends and shifts in support of research by field. The changing relationships between universities and other research and development performers and the implications of these changes for future university research are discussed. The study also examines the current state of research (funding trends, graduate enrollment and manpower trends) in the fields of chemistry, physics, mathematics, life sciences and engineering. Finally, the authors summarize the major planning issues that jeopardize the health of university research: supporting resources, manpower problems, indirect costs, and State/university relations. The study is limited to the extent that the authors have chosen to focus on sponsored research and have not explicitly addressed the impact of sponsored research on internal university governance. This is a minor shortcoming, however, as this study is far and away the most comprehensive treatment of this extremely broad and difficult area presently available.

For a discussion of the financial aspects of academic science, see Topic 9: Finance, Subtopic 4.1, Graduate Education, where this volume is briefly annotated.

17:0/76-1

ORU's and Politics: Or, When Is Organizational Murder Justified? C. West Churchman, Working Papers in Management Science, Center for Research in Management Science. (CRMS, University of California, Berkeley).

This paper is one of the products of the University of California, Berkeley, National Science Foundation-sponsored Research Management Improvement project. Written in response to the Bolce paper (17:0/75-1) on organized research unit review, it offers an interesting addition to the literature on research review by critically examining the moral politics that characterize such a process. Like the Bolce paper, it addresses the situation on the Berkeley campus of the University of California. It is concerned, however, with the broad problem of how people should justify the perpetuation or termination of research organizations. The author defines different "Weltanschauung" that set forth versions of how this ethical issue should be resolved. These are the systemic approach (where justification for a unit is based on some notion of common good), and the political approach (where survival is contingent upon political clout). The author argues that a third approach, which considers the spirit of a research organization, also may be an appropriate approach for research evaluation.

17:0/76-2

Protecting Human Subjects in Social and Behavioral Research: Ethics, Law and the New DHEW Rules: A Critique, Thomas Killin Dalglish, CP-385, Working Papers in Management Science, Center for Research in Management Science. (CRMS, University of California, Berkeley).

Protecting the rights and welfare of human subjects used in research has become a major public policy issue. This study traces the development of legal controls on university research involving human subjects and draws upon the experience of the University of California, Berkeley, with the rules protecting human subjects promulgated by the U.S. Department of Health, Education and Welfare (DHEW).

Part I describes the problems of research using human subjects and portrays DHEW rules as part of a trend toward formal and legal prescriptions on conduct. Part II reviews the ethical and legal framework for the DHEW rules. Ethical codes of the major professional, social and behavioral science associations are analyzed for their (limited) potential in protecting human subjects. Part III analyzes the DHEW rules and their implementation at Berkeley, including the way human subjects respond to such concepts as "benefit," "social risks," and "informed consent."

In part IV, the author evaluates the impact of the DHEW rules, judging it to be less adverse to the conduct of research than many researchers have claimed, and to have long-range implications for the governance of university research. The rights and welfare of human subjects will be more completely protected, the author argues, only when present rules are supplemented by a restructuring of such governance. Part IV closes with recommendations for national policy and suggestions for future research.

17:0/76-3

Science at the Bicentennial: A Report from the Research Community, National Science Board. (National Science Board, Washington, D.C.).

The National Science Board undertook, for the Bicentennial, to assemble the expert judgments of people in four "sectors"–universities, industry, Government laboratories, and independent research institutes–about the problems of science in America. Preceded by a brief historical introduction on the organization of American science, the report defines and interprets four themes: dependability of research funding; vitality of the research system; freedom in the research system; and (from a review of previously conducted public opinion polls) public confidence in science and technology and their value to society.

The Board found that respondents in all four sectors of the science establishment reported strikingly similar concerns about the status of science in American society, though the importance of various sectors was ranked differently. Increased continuity and stability of research funding were felt to be vitally necessary, and increased funds were judged needed by universities, Government laboratories, and research institute spokesmen, while industrial research spokesmen pointed to the need for generally greater capital formation and for improved incentives. All of the respondents also considered a lack of national research policy and priorities a serious issue.

The reduced appeal of careers in science for the ablest talent, and lack of career opportunities in basic science were important issues regarding the vitality of the research system.

Pressures toward applied research, instead of unfettered, basic inquiry, and rapidly growing bureaucratic and "accountability" controls were reported by all four sectors as threats to traditional research freedom. Specific negative attitudes in the Executive Branch and in congressional committees were regarded as a significant immediate problem for science.

The final section of the report contains a review of previously conducted public opinion polls on science which is of particular value to the university research administrator. This review, which includes descriptions of different major surveys on the subject, shows a clear general deterioration of public esteem for public institutions. However, the surveys show a high degree of public respect for scientists as experts, combined with the widely held perception that scientists are "strange people". The review suggests several options available to university administrators to improve public perception of science.

17:0/76-4

"The Impact of Federal Regulations on Research Management in Colleges and Universities: Overview and Summaries," John A. Perkins, Herman D. Johnson and Robert F. Kerley, (University of California, Berkeley).

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This is the final report of a research project sponsored by the National Science Foundation's Research Management Improvement Program. In it, the authors provide summary descriptions of the nine different "impact reports" that were prepared as part of the project. These impact areas are: cash flow; environmental health and safety; Federal procurement requirements; financial management–budgeting and reporting under Federal contracts and grants; indirect and direct cost recovery under Federal contracts and grants' property management; proposal preparation, negotiation and award; protection of human subjects; and time and effort reporting. These reports are primarily detailed descriptions of the impact that Federal research management procedures have had on the University of California. The careful attention they give to outlining all of the identifiable effects of contract and grant management make them useful to the university administrator and policymaker.

17:0/75-1

"The Review Process for Berkeley Organized Research Units," Jane Wellman Bolce, CP-394, Working Papers in Management Science, Center for Research in Management Science. (CRMS, University of California, Berkeley).

This study was sponsored by a National Science Foundation grant on Research Management Improvement. Although it is limited in scope to the review process as it is conducted at one university, it provides an in-depth description with some analysis of the peer review process of organized research on that campus. To the extent that the author's findings can be generalized to other institutions, this piece is of interest and use. It describes the policy for review of organization research units and gives a detailed history of the application of the policy to 10 different units. The effect of the reviews on the units is then analyzed. The author found that although the review policy could be said to be effective in that administrators tended more or less to follow it, the findings of review committees were often ignored and recommendations regarding administrative, funding and research changes were often not implemented. Several suggestions are offered for making reviews more effective administrative devices.

17:0/75-2

"The Controversy Over Peer Review," Thane Gustafson, *Science*, Vol. 190, No. 4219, 12 December, pp. 1060-1066.

This article provides a brief description of the process of peer review as it operates in the establishment of priorities and funding decisions in Federal agencies. The author first provides a brief overview of the way that the peer review process operates in two different agencies (the National Science Foundation and the National Institutes of Health) and notes that there can be considerable variation among programs in the relative weight given to peer reviews or to agency staff and program officers. He then describes the ways in which the peer review system has been attacked: 1) charges of favoritism or cronyism among the reviewers, 2) complaints of excessive or improper importance given to the role of agency staffs, and 3) unhappiness because the decentralized process is not a reliable way to coordinate Federal research funding with political goals.

The author tries to assess whether these charges are accurate, and, if so, how scientific goals may have been affected. He concludes that for the most part the peer review system continues to function in an equitable manner. He suggests, however, that it may not be accomplishing its objectives in spite of this strength. He argues that the peer review system relies heavily upon a market mechanism that assures a reasonably accurate sampling of the universe of research opportunities in the proposal process. He says that recent developments in the support of academic science (concentration of research funds in a few agencies and growth of "targeted" research) have created new channels of communication and rewards that parallel the peer review process. Although he concedes that there are defects in the peer review process, he argues that the new channels of review and reward developing with the changed funding patterns are ultimately more hazardous than peer review to the continued vitality of science. He concludes with some positive suggestions about improving the peer review system to ensure its viability in the present environment.

17:0/75-3

"The Management of Research in the University of California—The Investigator's Perspective," James W. McEvoy III, CP-386, Working Papers in Management Science, Center for Research in Management Science. (CRMS, University of California, Berkeley).

The late James McEvoy undertook surveys of faculty investigators at the Berkeley and Davis campuses of the University of California, seeking to determine how the research investigator functioned from day to day as administrator and manager of a research effort. Investigators were questioned about their degrees of satisfaction or dissatisfaction with institutional services (accounting, purchasing, etc.) supporting their efforts. McEvoy also gathered and interpreted valuable evidence about internal project management methods and researchers' attitudes toward their research and other academic roles.

Where possible, McEvoy used verbatim the survey questions earlier developed and used in faculty surveys for the Carnegie Commission on Higher Education. Thus his data can be compared with national data on research investigators.

17:0/74

"Science and its Public: The Changing Relationship," *Daedalus*, American Academy of Arts and Sciences, Vol. 103, No. 3, Summer.

Of a number of interesting essays in this volume, those most pertinent to higher education's concerns with research and its organization are: Don K. Price, "Money and Influence: The Links of Science to Public Policy;" David Z. Beckler, "The Precarious Life of Science in the White House;" Emilio Q. Daddario, "Science Policy: Relationships are the Key;" and Amitai Etzioni and Clyde Nunn, "The Public Appreciation of Science in Contemporary America."

These articles display and interpret important facets of the public and political environment of the science establishment, including academic science. Price discusses some of the paradoxes of scientific freedom in relation to the sources of funds, and has judicious suggestions for preserving needed autonomy in a troubled political environment. Beckler and Daddario offer detailed historical insights from their own Washington experience concerning effective advocacy for the needs of science. Etzioni and Nunn portray, from polls and other evidence, important ambivalences toward science, its methods and its social impacts.

17:0/73

Science and the Evolution of Public Policy, James A. Shannon, ed., 280 pp. (Rockefeller University Press, New York).

This collection of articles resulted from a Lecture-Seminar series funded at Rockefeller University through the Commonwealth Fund and the National Science Foundation. The purpose of the series was to bring together scientists and research administrators to give their perspectives on different aspects of Federal funding and research policy. The articles are organized into five sections: the purpose and utility of science, development and goals, the university, the Federal support of science, and general support of science. The materials on purpose and utility of science and problems of developing goals and priorities are of especially high quality. The perspectives offered concerning the health of research and the prescriptions given to ensure its continued well-being are overwhelmingly those of academic scientists. The book pays particular attention to the problems encountered by the lack of precise definition of most research policymaking terminology. The book will be useful, therefore, to those who want to become quickly acquainted with the range of opinion and the scope of debate on these philosophical and semantic matters. The author highlights the need to clarify these definitions before a sound research policy can be developed.

17:0/72-1

Beyond Academic Departments, Stanley Ikenberry and Renee C. Friedman, (Jossey-Bass, San Francisco).

This book is a study of research centers, or those organizations that grew up in and around universities for the primary purpose of sponsoring research. The authors present some historical information to describe the origins and growth of these various research centers with a tentative typology of different kinds. The focus of the study, however, is how research centers grew outside of the traditional academic structures of discipline-based departments. The authors posit that the dominant form of university disciplinary-based research operates in a structure of organization, control and reward that is not compatible with interdisciplinary research. Research centers, therefore, grew in order to accommodate new forms of research that required different administrative apparatuses for their support: interdisciplinary, contract, and applied research. The authors present evidence that these centers can suffer within academe because they threaten traditional academic channels of control and reward. The authors conclude with recommendations to strengthen the role of research centers and to minimize some of these negative aspects.

17:0/72-2

"Multi and Interdisciplinary Research: Problems of Initiation, Control, Integration and Reward," James W. McEvoy III, *Policy Sciences*, Vol. 3, pp. 201-208.

This article is about the problems of management of a multi- or interdisciplinary team research project. The author draws upon his experience as project director of a large interdisciplinary project concerned with human effects on the Lake Tahoe region of California/Nevada. The study includes a structural analysis of the organization of universities and how it inhibits interdisciplinary research. The author concludes that the traditions of single-disciplinary research are ineffective in providing management direction for interdisciplinary research projects. He found that projects lacked sufficient integration because each investigator pursued different research questions appropriate to individual disciplines. The differences in disciplinary conventions for evaluating research quality were found to be a major cause for this disunity. Specific suggestions for the conduct and design of interdisciplinary projects, including an analysis of national science policy, are given.

17:0/72-3

The Non-Profit Research Institute, Harold Orlans, A Report Prepared for the Carnegie Commission on Higher Education, 244 pp. (McGraw-Hill Book Co., New York).

The author distinguishes types of non-profit research institutes: the Federal Research and Development (R&D) center; the applied research institute; the operating foundation; the endowed institute; and the project institute. Characteristic features of institute organization are analyzed: income tax status and charitable-organization status; governance structures and personnel policies; and modes of conducting research.

Harold Orlans points to special virtues of the institute form as a way to concentrate scientific attention on a given long-term problem area or on the research needs of a major supporting client. Institutes often compete with universities (which in many instances have given birth to them) and with profit-making corporations. Because instabilities of funds and client relations afflict all but the few fully-endowed institutes, some have pursued aggressive diversification strategies, of which graphic examples are discussed.

Orlans argues that since excessive commitments to research by university faculty may have helped to bring about the severe tensions in universities in the latter 1960's, independent institutes may be a better vehicle for conducting highly systematic research.

This assessment of research institutes, illustrated by a wealth of case illustrations and episodes, is revealing and provocative in treating the major competitive alternatives to universities as centers of scientific effort.

This volume is cited and fully annotated under 12:1.3/72-2. It is briefly annotated below because of its relevance to this topic area.

The Home of Science: The Role of the University, Dael Wolfle, Carnegie Commission on Higher Education, 201 pp. (McGraw-Hill Book Co., New York).

In this report, sponsored by the Carnegie Commission on Higher Education, Dael Wolfle provides a lucid and well-documented history

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of the American research university. He shows how the major forces that shaped this development led to the combination of serious policy problems that presently plague the research community. The first section of the book outlines the development of professionalism in science, the search among scientists for research sponsors, and the beginnings of State and Federal interest in science. The early alliances between research, graduate instruction and undergraduate education in the major universities are traced. This overview presents the seeds of problems of the uneasy marriage between "pure" and "applied" research, between liberal undergraduate education and graduate education and research specialization, and between academic freedom and accountability. Wolfle argues that continued heavy Federal financing of university research is necessary to protect quality scholarship. He concludes by offering an agenda of significant policies that research universities must effect if they are to maintain high quality: clarify their own goals to avoid manipulation by sponsors, become more accountable for quality of research programs, and increase interinstitutional coordination and sharing of high risk research.

17:0/69

The Invisible University: Postdoctoral Education in the United States, National Academy of Sciences, 310 pp. (National Academy of Sciences, Washington, D.C.).

This is the major study–in the still-expanding phase of science budgets and graduate enrollments–of postdoctoral education and the role of the "postdoc" in research and teaching.

Starting with standard definitions, the study relied upon questionnaire surveys to obtain evidence from current postdocs about their backgrounds, activities and support. A separate survey covered those who could report on the previous impact of their postdoctoral experience. Faculty, departmental and institutional questionnaires elicited information on the postdoc rule, importance of postdocs to faculty and departments, and problems of institutional policy concerning postdoctoral education.

While a few outstanding young scientists had postdoctoral opportunities each year between the wars, steep acceleration of postdoctoral education occurred in tandem with the expansion of Federal funds for support of research following World War II. Postdoctoral education, like research funding, proved to be highly concentrated in a subgroup of prominent universities and quite concentrated in the laboratory sciences, mathematics and medicine.

The study concluded that postdoctoral experience has become nearly essential to establish readiness for good academic appointments and that postdocs had come to assume a crucial role in the conduct of academic research in the sciences.

17:0/68-1

Science Policy and the University, Harold Orlans, The Brookings Institution, 344 pp. (The Brookings Institution, Washington, D.C.).

This book contains a series of papers resulting from a seminar sponsored by the Brookings Institution on research and research policy. This collection is unique in that it presents both the papers on different aspects of policy formation given to seminar participants and the editor's synopsis of the discussion that followed. These discussions (where a high degree of candor seems to have prevailed—and where individual identities are omitted) are among the most interesting of the literature on research and research management. It is not possible to summarize them succinctly, because the only fair generalization that can be made about them is that there is no uniformity of opinion on research policy among the profession. The topics touched upon in the seminars, however, give a rich menu of research policy problems, Federal support for functions *other than* research in universities; how to support "big science;" and finally, how to plan and budget for research in universities. Two distinctive contributions of the book are attempts by members of the seminar to offer criteria by which funds for researchers may be "rationally" allocated and by which research productivity can be evaluated.

17:0/68-2

The Closed Corporation: American Universities in Crisis, James Ridgeway, (Random House, New York).

This book, (subtitled "How America's Great Universities are Controlled by Big Business and the Department of Defense"), is essentially an update of other critical literature that has appeared periodically about the relationships between university administration and corporate management and among university, government and industrial research. The book suffers from a lack of systematic and carefully documented study to support the author's biases about the relation of the ivory tower to industrial research. In spite of these shortcomings, the book provides one of the few attempts to document the nature of the collegial relations between researchers and university policymakers, industry and the Federal Government. It also describes the dynamics of the policymaking process and the impact that this process has had on universities and the nation's research effort. The book raises a number of disturbing questions about the interaction between academic research and other research and about the moral (and legal) obligations universities have in shaping the research environment. Although these questions are much discussed generally in the academic community, the community has not given them the systematic study they deserve.

17:0/67

"Universities and Disciplines," Alvin Weinberg, *Reflections on Big Science*, (MIT Press, Cambridge, Mass.).

This essay, written by the director of the Oak Ridge National Laboratory, is a chapter from his interesting book on the problems and prospects for "big science" research. The author argues that the disciplinary structure of university research makes university research esoteric rather than exoteric and threatens the relation between the university and an increasingly mission-oriented society. The essay offers coherent definitions of "pure" and "applied" research with good examples of both kinds. The clarity of these definitions alone qualifies this essay for inclusion in a research bibliography. The point of the essay, however, is not to enter a semantic debate. Alvin Weinberg is concerned about the social impact of what he calls the "narrow disciplinarity" of the university. He fears that the ecology of the discipline-oriented university encourages excessive purism and specialization in science. He maintains that this then leads to a proclivity among scientists to substitute study for action. Weinberg fears that eagerness to stimulate application can cause university research to be managed as it is in the mission-oriented laboratories, something that he thinks ultimately would be damaging to free inquiry. He argues instead for a broadening of the undergraduate curriculum, which he thinks is necessary to encourage scientists to be synthesizers of knowledge rather than esoteric scholars.

17:0/63

The Management of Scientific Talent, Jerome W. Blood, 240 pp. (American Management Associations, New York).

This collection of articles on different aspects of research management was commissioned by the American Management Association in 1963. Articles fall into four major groups: objectives and planning, organization, staffing and compensation, and controlling research work. The collection is somewhat unique within this bibliography because the authors are managers of research and development in American industry, and the articles concentrate on how to manage research in the business environment. The authors tend to concentrate less on theoretical problems encountered in the management of research, than on specific approaches to problem-solving. Thus, in an article on recruitment of scientific personnel, Arnold Deutsch presents the corporate manager with a list of environmental factors necessary to create a satisfactory climate for the professional researcher. The strength of this collection is in its succinct approach to research management problems. Many of these specific techniques are not translatable to such problems in universities, largely because of the "organized anarchy" of academe. Some recipes for successful management presented in this collection could, however, be enormously beneficial to the academic research administrator.

17:0/59

American Universities and Federal Research, Charles R. Kidd, (Oxford University Press, London).

This book is an early (1963) description and analysis of the impact of heavy Federal funding of research on American universities. Although it is now somewhat dated, it remains the most cogent and incisive analysis of the complex relationships surrounding Federal/university research. Written before the height of massive research funding, Charles R. Kidd's analysis is all the more brilliant for its omniscience in predicting areas of major impact. Kidd describes the impact of Federal research on many university elements: internal governance, curriculum, planning, graduate education, funds management, and individual faculty autonomy. He is particularly insightful in his description of the complex mechanisms that are used to form research policy and the institutional arrangements by which university objectives are reconciled with those of government. The central thesis of the book is that large-scale, Federal financing of research has set in motion irreversible forces affecting the nature of universities. These include change in internal commitment to instruction, de-emphasis of the core undergraduate liberal arts curriculum, changes in financial relations and internal budget processes, changes in parts of the Federal administrative structure, new relations between universities and the Federal Government, and, finally, change in the conduct of research itself. Kidd warns that, without careful attention within universities and the Federal Government at the policy level, these forces could combine to damage the quality of universities and university research.

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Resource Allocation and Budgeting

Richard J. Meisinger, Jr.

The literature on resource allocation and budgeting addresses the question of how to distribute scarce resources among certain desirable activities. The budget is the means by which these decisions are made explicit and is, in Aaron Wildavsky's words, "concerned with the translation of financial resources into human purposes."* The budgetary process involves the interaction of institutions and State agencies beginning with the development of budget submission guidelines and budget preparations, to the writing of appropriation bills and final approval by the executive branch and legislature.

Central to the resource allocation process are the following dimensions: 1) the manner in which budget submission guidelines are developed; 2) the way in which such guidelines are used in formulating budget requests; 3) the revenue situation (see Topic 9: Finance) and the extent of the demands made by competing agencies for scarce resources; 4) the power

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*Aaron Wildavsky, *The Politics of the Budgetary Process* (2nd edition), Little, Brown and Company, Boston, 1974, p. 1.

structure of agencies involved in the competition (i.e., strong or weak governor, State statutory responsibilities of the higher education coordinating agency); 5) the timing of the budgetary cycle (i.e., annual or biennial); 6) the amount of time allowed institutions and agencies for budget preparation and for budget review and analysis; 7) the number of agencies involved in the process and their characteristics (i.e., staff size and experience, applicability of civil service regulations; 8) the analytical techniques and technologies employed by budget review agencies, including management information systems, planning-programming-budgeting systems, and cost analyses; 9) the nature and extent of interagency exchanges in the budgetary process (i.e., formal hearings, informal communications, analyses and data sharing); and 10) the relationship between any statewide master plan for higher education and the resource allocation process.

The literature of resource allocation and budgeting tends to address either the broad aspects of budgetary theory and practice or specific forms of budgeting. Two forms, formula budgeting and planning-programming-budgeting (PPB), are so frequently identified that they warrant separate classification here.

Budgetary Theory and Practice. Much of the literature on the budgetary process focuses on the environment in which budgeting takes place. The literature included in this section deals with agency roles and characteristics, and the interaction among organizations, rather than on specific budget procedures. This subtopic also addresses the historical development of budgeting, budgeting reforms, staff coordination, individual State budgeting procedures, and procedures for contending with cutbacks and revenue increases. Entries are further categorized in this subtopic according to whether they address State or Federal budgeting.

Formula Budgeting. Formula budgeting is a resource allocation process which uses formally established guidelines or decision rules as aids in generating and reviewing institutional or agency budget requests. These guidelines, frequently employing formulas, are a means of ensuring that resources are distributed equitably among competing organizations and of reducing the complexity of budget review. Although all budget processes make use of decision rules, the use of the formula approach generally applies to only those situations where guidelines can be and are explicit and formal.

Planning-Programming-Budgeting (PPB). PPB is a conceptual framework for budgeting which identifies program objectives and systematically compares various methods of meeting those objectives. PPB uses two principal instruments: a program budget and cost-benefit analysis. The program budget is a format for organizing information about the costs and benefits of output activities. Cost-benefit analysis, which entails a set of formal techniques, attempts to compare the costs and benefits of competing programs within a quantitative framework. Considerable literature has been written about this approach to budgeting, especially as used by the Federal Government. Many PPB concepts have been incorporated into traditional budgetary systems in order to improve and add flexibility to these systems.

Resource allocation and planning are clearly related activities, for the budget is a means by which plans are translated into action. The subject merits close attention by planners, for one of the most significant policy problems facing higher education has been that of coordinating longer-range planning with shorter-range budgeting.

TOPIC ORGANIZATION

18: Resource Allocation and Budgeting
  1.0 Budgetary Theory and Practice
    1.1 General
    1.2 State Budgetary Process
    1.3 Federal Budgetary Process
  2.0 Formula Budgeting
  3.0 Planning-Programming-Budgeting (PPB)

1.0 BUDGETARY THEORY AND PRACTICE

1.1 General

18:1.1/77

Public Budgeting Systems, (2nd edition), Robert D. Lee, Jr., and Ronald W. Johnson, 369 pp. (University Park Press, Baltimore, Md.).

This book is a very good primer on the budgetary process in the public sector. Although it does not address higher education specifically, most of the discussion applies to it. This book is an analysis of the procedures and methods–historical, current, and projected–used in the resource allocation process. The authors describe the features of public budgeting that distinguish it from private forms of budgeting, explain what budgets and budgeting systems are, and relate budgeting to three theories of decisionmaking: pure rationality, limited rationality, and incrementalism or "muddling through". To provide the reader with some perspective, the magnitude of government and the historical growth of local, State, and Federal finances are considered.

Several chapters are devoted to the historical development of budgeting. The authors examine the literature on proposals for and attempts at reform between 1900 and the early 1960's, drawing a careful distinction between budget theory and practice. The authors pay particular attention to the development of planning-programming-budgeting (PPB) systems in the 1960's. The authors observe that PPBS grew out of a number of concepts and techniques developed largely independent of the budgeting system: operations research, economic analysis, general systems theory, computers, and systems analysis. The authors trace the difficulties involved in transferring PPB systems developed in the Defense Department to Federal civilian agencies. They note that the attempts by State and local government to implement PPB were also disappointing.

The book identifies the actors involved in budgetary decisionmaking and discusses the four phases in the budget cycle: preparation and submission, review and approval, execution, and audit. The executive and legislative roles in budgeting are treated separately, with attention given to the procedures in requesting budgets, the types of information assembled, the process of executive and legislative decisionmaking, and the types of budget documents and their formats. The techniques for conducting analyses and the limitations of analysis within a political system are discussed separately.

The authors address several aspects of the budgetary process which usually receive scant treatment, such as budget execution and governmental accounting procedures. They also consider capital budgeting and debt management, with an explanation of the relationship between capital and operating budgets. Thirdly, the authors examine personnel budgeting and note the impact of personnel decisions and expenditures on the budget. Finally, they devote an interesting section to the economic and political problems that stem from having three major levels of government of differing financial capabilities provide various services. This discussion considers the patterns of interaction among the three levels.

18:1.1/75

Budgeting: A Comparative Theory of Budgetary Processes, Aaron Wildavsky, 432 pp. (Little, Brown and Company, Boston).

This book is a compendium of much that is known about budgeting at various levels of government in various countries of the world. The purpose of the book is comparative analysis, focusing on wealth and predictability as the dominant variables influencing budgetary behavior. The study examines four wealthy and stable countries (United States, Britain, France, and Japan); poor and stable American cities; poor and unstable countries; American States, which are combinations of the others; and finally deviant cases from a variety of American public organizations. In the deviant cases, key roles (that of spending advocate and treasury guardian) are absent. The concept of role in Wildavsky's hands becomes a powerful predictive variable in a great many cases. Overall, however, the technical subtleties of budgeting are sacrificed in favor of a broad-brush treatment of similarities and differences between budgeting systems.

The book contains some new work by Wildavsky on strategies and calculations, and on budgeting and conflict. A considerable portion of the book is devoted to examining reforms in budgeting, moving from program budgeting to zero-base budgeting to planning-programming-budgeting systems (PPBS). Wildavsky's analysis of PPBS is extremely critical, but rather accurate. The author is one of the few observers to analyze the political assumptions which lie beneath the supposedly neutral cloak of efficiency and effectiveness. It is important to note that there are some aspects of PPBS, such as policy analysis, which the author favors.

This book is fascinating reading, primarily because the comparative analysis highlights aspects of Federal and State budgeting processes which might otherwise have gone unnoticed. It is recommended reading because of its penetrating yet lucid analysis of budgeting principles.

1.2 State Budgetary Process

18:1.2/77

State Budgeting for Higher Education: The Political Economy of the Process, Frank A. Schmidtlein and Lyman A. Glenny, 275 pp. (Center for Research and Development in Higher Education, University of California, Berkeley).

This monograph is one of a series from the Center for Research and Development in Higher Education which summarizes the results of

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a 3-year, 50-State study of the processes State agencies used to formulate college and university budgets. Seventeen of the 50 States were studied intensively.

The purpose of this study was to bring to the practicalities and realities of the budget process a theoretical framework with which to interpret budgetary behavior. This framework entails elements of open systems theory and exchange theory. However, this study focuses on the process of State budgeting for higher education rather than on its inputs and outputs. It gives primary attention to a number of dilemmas that beset the design and conduct of the budget formulation process. The trade-offs involved in such processes are classified under five broad headings: 1) consensus versus conflict, 2) efficiency versus redundancy, 3) flexibility versus control, 4) stability versus change, and 5) simplicity versus complexity.

The organizational context of the budget process is explored with most attention directed toward the origin and number, growth, location, staff organization, and responsibilities of the State-level budget agencies. The authors assess State-level budget structures by examining the effect of structure on decisions, the hierarchical patterns into which the budget process is organized, and the location of budgetary decisions. The theoretical problems in the design of State higher education budgets are also discussed in terms of a checks-and-balances paradigm and a bureaucratic paradigm.

The concept of budget process effectiveness is discussed in terms of technical efficiency, allocative efficiency, and rationality. The authors study the relationship between State-level budget agency staff characteristics and process effectiveness, and explore the context in which budgets are submitted and reviewed. In a useful conclusion, the authors project future trends in the design of budget structures.

The book presents a well-balanced blend of theory and data from the 17 States investigated in detail. The transition between theory and practice is remarkably smooth throughout the book. An extensive bibliography is also provided.

18:1.2/76-1

State Budgeting for Higher Education: State Fiscal Stringency and Public Higher Education, Frank M. Bowen and Lyman A. Glenny, 268 pp. (Center for Research and Development in Higher Education, University of California, Berkeley).

This monograph summarizes the results of a study conducted by the Center for Research and Development in Higher Education to examine how public colleges and universities respond when States make substantial reductions in their appropriations. Data were collected from approximately 12 States, with detailed case studies presented for five States. The book addresses common strategies for dealing with fiscal stringency while noting that the response to fiscal stringency occurs over time and in the context of highly diverse State governments and systems of public higher education. Retrenchment has two definitions in this report: 1) midyear or mid-biennium cutbacks required when a State finds its revenues insufficient to cover authorized budget levels; and 2) major reductions in budget requests during the final stages of budget development, usually after the Governor's budget has been submitted and during legislative consideration of requests.

The study seeks answers to the following questions: 1) What are the immediate responses to retrenchment? How selective can they be? 2) Who should participate in establishing procedures and selecting priorities and criteria for retrenchment? 3) What impediments are there on the flexibility required to respond to fiscal stringency? How can these be overcome? 4) What special academic and support programs should receive particular attention during retrenchment? 5) What criteria and procedures should be used for layoff of personnel during retrenchment? 6) What are the possible longer term implications of retrenchment?

The authors explain the dangers of across-the-board budget cuts. They note that the needs and priorities of an educational institution are different during retrenchment than during periods of growth. Retrenchment requires a wider range of people than usually participate in academic programming and budgeting. One significant problem identified is that higher education institutions are apparently unable to face reality until after many options for dealing with retrenchment have been closed off.

Bowen and Glenny discuss the emergence of a new style of leadership to contend with the fiscal stringency of the 1970's and 1980's, when more attention will be directed to multi-year fiscal planning. Planning also will examine possible fiscal stringency, and will be a much more adaptive process. Plans will no longer be assumed valid for fixed 5- and 10-year periods, but will require revision more on an annual or biennial basis.

The five case studies included in the book cover Florida, Michigan, New Jersey, New York, and Wisconsin. These studies generally cover responses to fiscal stringency during the fiscal years 1974-75 and 1975-76. Each study was updated by a consultant in that State as of late Spring 1976.

18:1.2/76-2

State Budgeting for Higher Education: Data Digest, Lyman A. Glenny, Frank M. Bowen, Richard J. Meisinger, Jr., Anthony W. Morgan, Ralph A. Purves, and Frank A. Schmidtlein, 376 pp. (Center for Research and Development in Higher Education, University of California, Berkeley).

This monograph is one of a series from the Center for Research and Development in Higher Education which summarizes the results of a 3-year, 50-State study of the processes State agencies use to formulate the budgets of colleges and universities. Seventeen of the 50 States were studied intensively. This monograph is a descriptive data base, addressing various budgetary processes in 17 States.

The study has three principal sections. Part I provides an overview of the State higher education budget process, outlining in general terms the organization, process, and procedures of the budget system. Budget terms are defined, and the development of the taxonomy used for data comparison is explained. Part II consists of tabular presentations which narrowly focus on specific variables across the 17 States. A total of 84 data tables are presented in this section. Such classification inevitably discards some information on the unique characteristics of the budget process and may produce ambiguous entries in the tables. To reduce such problems of classification the tables include descriptive notes which clarify or qualify the tabular presentation wherever needed. Part III includes individual State descriptions and flow charts of the budgetary processes. In notes to the data tables and in the individual State descriptions in Part III, recent or proposed changes are described where necessary to qualify the presentation.

The data presented in this study are organized into the following categories: structural classification and staff organization of agency staffs, staff personnel matters, presubmission activity, organizational budget requests, executive and State higher education agency hearings, Governor's budget, legislative review and appropriation, community colleges, and budget process time intervals.

This study describes the State budgetary processes at the time of the 1974 field investigations. In almost all instances, the development of the annual budget for Fiscal 1975 is described; in a few cases, the description is based on the Fiscal 1976 budget. Although some of the data are clearly dated, the report is important for its comparison of the budget process across States. The complexity and diversity of budget systems is apparent in this comparison.

18:1.2/76-3

State Budgeting for Higher Education: Interagency Conflict and Consensus, Lyman A. Glenny, 170 pp. (Center for Research and Development in Higher Education, University of California, Berkeley).

This monograph is one of a series from the Center of Research and Development in Higher Education which summarizes the results of a 3-year, 50-State study of the processes used by State agencies to formulate college and university budgets. Seventeen of the 50 States were studied intensively. The study seeks to evaluate the progress that budget professionals are making in their efforts to develop a more systematic approach to budgeting. The author addresses the interorganizational dynamics of the budgetary process, concentrating on the agency structure, roles, and staff characteristics of the State higher education agency, the executive budget office, and the legislative budget staffs. In particular, the author examines the amount of competition and cooperation that arises out of a common concern for budget review. The objective of this phase of the study is to determine the extent to which staffs overlap and duplicate activity, and the degree to which they engage in coordinated efforts to minimize redundancy.

This study evaluates and compares organizational and budgetary theory with State practices. It concludes that there is no single theory of decisionmaking, budgeting, organization, or interorganizational relationships which adequately explains the State budget organization and process, but that several theories contribute to a partial understanding of the process. The author also notes that the roles of individual State budget review agencies have become more and more confused as competition among them for political attention and influence increases. The conclusion is that most of the 17 States in the study have failed to achieve a significant degree of domain consensus among the agencies that review operating budgets for higher education. The lack of domain consensus is attributed to the lack of specific operational goals for each agency, and the newness of many agencies and their staffs. In a conclusion, Glenny suggests differentiated functions for each of the budget review agencies.

This study is packed with lucid observations about the interaction of the State agencies involved in the budget process. Particularly valuable to the individual who has never worked at the State level, the book also provides some much needed perspective for present or past State-level officials.

18:1.2/76-4

"The Lawmakers Budget for Higher Education: The Case of Illinois," James D. Nowlan, pp. 146-175 in *State Politics and Higher Education*, Leonard E. Goodall, ed. (LMG Associates, Dearborn, Mich.).

The interesting feature of this book is that the author served as a member of the Illinois House of Representatives from 1969 to 1972, and undertook this work as a participant-observer in the process. The book focuses on several cases of conflict and controversy in higher education which the legislature handled between 1969 and 1971. Those years were pivotal in the balance of relationships between the Illinois Board of Higher Education, the Governor's office, and the legislature.

The author examines the legislature's role in making decisions by raising the following questions: 1) What is the nature and quality of the legislature's input? 2) What resources are drawn upon and are they independent of other participants? 3) Are any normative values of the legislatures and its legislators reflected in the policy decisions made? and 4) Is any change normal in the legislature's traditionally passive role in policymaking?

The mode of presentation of the cases discussed in the essay is journalistic description. No attempt is made to develop a theoretical or analytical framework for the events described. Although the case studies are brief, they are lively, and serve to highlight the details which a legislator believes are important in weighing a situation.

The author concludes that the legislature clearly has been subordinate to the Governor in relation to higher education decisionmaking in Illinois, but that the legislature's involvement is increasing. By pointing out the Board of Higher Education's powerful control of information, the author demonstrates how State higher education agencies can wield considerable influence in the budgetary process. The author also concludes that as legislators are thrust more and more into budgetary conflicts, they develop analytical capabilities–primarily in the form of expert staffs–to better evaluate the complex issues.

18:1.2/76-5

State Budgeting for Higher Education: Information Systems and Technical Analyses, Ralph A. Purves and Lyman A. Glenny, 231 pp. (Center for Research and Development in Higher Education, University of California, Berkeley).

This monograph is one of a series from the Center for Research and Development in Higher Education which summarizes the results of a 3-year, 50-State study of the processes used by State agencies to formulate college and university budgets. Seventeen of the 50 States were studied intensively. This study focuses primarily on the informational and analytical aspects of budget requests to the State and the technical procedures State budget agencies use to review these submissions. Particular attention is given to the application of methods used to rationalize the budget process, such as program budget submissions, new information reporting structures and systems, and various micro-economic analytical techniques that have been developed for budget preparation and review.

A major portion of this study is descriptive. The authors discuss the taxonomies, uses, and systems of budgetary and financial information.

They consider the kind of data institutions provide, the format or organizing structure within which the data are collected and displayed, the uses of the data in the budget process to satisfy various budgetary functions, and the development of systematic procedures for gathering and reporting data. The authors compare the different styles of higher education budget review by establishing typologies and examining in detail the differing procedures of several States. Scope of budget review is described in terms of zero-base review and structured-incremental review. Review techniques are grouped as object of expenditure budgeting, performance budgeting, formula budgeting, programming-planning-budgeting, and tactical budget planning. Considerable attention is given to the formal budget documents which provide much of the information used for the overall budget review. Requests for documents from institutions and statewide governing boards, the exchange of documents at the State level, and the relationship of these documents to the original requests are examined to show these documents as information sources and as review material. The authors also discuss the technical problems with information and analytical systems: noncomparability of data, nonuse of data, unsophisticated costing techniques, distorted incentives through workload factors, adequacy of output information, data quality and credibility, and misuse of data.

The study also evaluates budgetary information and review systems in terms of the implications and consequences of their use. The concluding chapter is a particularly excellent blend of philosophical, theoretical, and practical considerations for the design of information and analysis systems.

18:1.2/75-1

The Political Pursestrings: The Role of the Legislature in the Budgetary Process, Alan P. Balutis and Daron K. Butler, eds., (Sage/Halstead Publishers, Beverly Hills, Calif.).

Legislative authority once ruled the budgetary process, but has been eclipsed by the executive branch of government in recent times. Considerable attention has been given to the reform of State legislatures; one such reform has been the increased professional staffing to assist legislators in gathering, processing, and assessing information. The essays in this volume examine the nature and workings of these staffs through a systematic comparison of their backgrounds, norms, constraints, functions, and influences in various State legislatures. This book is particularly useful because, as the introductory review notes, most of the studies on legislative behavior to date have focused on Congressional rather than State legislative action.

The book is organized into two distinct parts. The first is largely descriptive, focusing on the origins and functions of legislative fiscal staffs in New Mexico, Florida, Michigan, and Illinois. The authors of these chapters are members of the fiscal staffs in each of their respective States. The unifying theme is that the role of the legislative staff is not to make policy, but to provide legislators with the basic information to help them define the policy environment. Also noted is the increasingly important role these staffs play in legislative oversight.

The second part of the book examines the legislative staffs in Wisconsin, New York, and Texas from a somewhat broader perspective. These chapters evaluate the implications of increases in the size and number of legislative staffs, and to assess how much influence these staffs have in the legislative process. Leif S. Hartmark's chapter on Wisconsin is a particularly fine blend of description and analysis.

The editors note that "legislative staff influence is the convergence of the intelligence, integrative, and innovative functions." Although legislative fiscal staffs play a significant role in developing a State's budget, the legislator is the chief policymaker and defines the staff roles that determine the staff-legislator relationship.

18:1.2/75-2

"Flexibility for Whom: The Case of Forced Savings in Budgeting for Higher Education," Anthony W. Morgan, *Educational Record*, Vol. 56, No. 1, Winter, pp. 42-47.

This article should be of particular interest to officials in educational institutions and State governments who are concerned with the management of budget reductions. The article gives considerable insight into State-institutional relationships. Forced savings, otherwise known as salary savings or turnover savings, is one State-level government strategy to reduce higher education budgets. Forced savings is usually treated as a deficiency appropriation in the budget: the institution is required to save and return this amount at the end of the fiscal accounting period. Thus, it becomes a mechanism for resource reallocation.

The author focuses on savings strategies used in the University of California and California State University and Colleges systems during the early 1970's. Forced savings is used as a lens through which the interorganizational relationships between the State, multi-campus system, and campus levels can be viewed. The author concludes that the State, system, and campus administrators had similar reactions to forced savings. They tended to: 1) avoid uncertainty and to preserve flexibility by taking funds from another level of organization, and 2) use savings as a device to influence a subordinate level's allocation of resources. By specifying a forced level of savings, State-level administrators reduce their budget uncertainty by fixing the minimum level of lapsed funds. This strategy of uncertainty reduction is in turn repeated at the multi-campus system and campus levels.

A major policy issue to be considered is how savings targets should be assigned. Three potential answers are suggested: 1) assign flat percentages to all subordinate units regardless of the variability in savings potential, 2) assign targets according to the ability to pay, or 3) use diffential savings targets to redistribute available resources among subordinate units. Other key policy questions raised are how to assess the effects of savings on the quality of services provided, and how much flexibility each unit should have.

The author also notes the lack of incentives to carry forward balances. An obvious incentive system is to allow the system and campuses to retain a portion of the resources saved. However, the State fears abuses of incentive systems. The author notes that despite the pitfalls, incentive systems are instrumental in promoting a healthy morale and a climate for change.

18:1.2/73-1

"Statewide Reallocation Through Program Priorities," Edward H. Flentje and Steven B. Sample, *Educational Record,* Vol. 54, No. 3, Summer, pp. 175-184. Also **"Comment on 'Statewide Reallocation Through Program Priorities',"** Lyle B. Lanier, *Educational Record,* Vol. 54, No. 3, Summer, pp. 184-189.

These papers examine the relationship between State agencies and institutions in a situation where resources are suddenly scarcer than anticipated. Edward H. Flentje and Steven B. Sample provide a detailed case history of the 1972-73 budget cycle in Illinois from the point of view of the Illinois Board of Higher Education (IBHE). Lyle B. Lanier critiques this interpretation from the perspective of the University of Illinois. The wealth of case material and the contrast in perspectives make these two papers invaluable to anyone interested in the institutional consequences of State-level budget strategies.

Illinois higher education approached the 1972-73 budget cycle with some uncertainty, in that the 1971-72 budgets had been pared by the Governor in June 1971 to a level comparable to the previous year. The IBHE adopted a process to establish high and low statewide priorities for higher education in order to bridge the gap between available resources and perceived needs. The program priorities approach to reallocation was an alternative to across-the-board cuts, freezes on various categories of expenditures, and programmatic moratoriums. In the process the

IBHE reallocated $24 million from low to high priority programs in the IBHE recommendations. Flentje and Sample answer three questions in the affirmative: Should reallocation take place? Should it take place programmatically? Should it take place on a statewide basis?

Lanier is extremely critical of the IBHE approach to the 1972-73 cycle. First, he argues that the statutory authority of the IBHE is limited to advising the appropriate board of control about existing programs, and does not extend to the elimination of programs. Lanier analyzes why the IBHE rejected several alternative budget strategies, including the needs budget and the fixed base approach. He concludes that the program priority technique was not suitable, and that the State's appropriation process made it impossible for the IBHE to enforce its specific program recommendations. Lanier also points out the communications and timing difficulties which arose in implementing the program priority technique.

18:1.2/73-2

Changing State Budgeting, S. Kenneth Howard, 372 pp. (Council of State Governments, Lexington, Ky.).

The purpose of this volume is to examine the emergent trends in State budgeting, with an emphasis on the impact of planning-programming-budgeting systems (PPBS) on traditional budgeting frameworks. In this book, State budgeting is viewed as an administrative process that is heavily influenced by political considerations. Characteristic of most budgetary process studies, the book devotes most of its attention to the planning and spending sides of budgeting, and little attention to the revenue side.

The author provides a generalized description of the State administrator's milieu, and summarizes some characteristics of State budgeting. A particularly useful section deals with the intergovernmental context of budgeting, addressing the concepts of federalism, the States' responsibilities, and forms of sharing. There is also a discussion of capital budgeting, including the organizational arrangements used in State capital budgeting. The major portion of the book is directed toward budget reform, with an emphasis on PPBS as an approach to rational budgeting. The role of systems analysis is discussed in relation to program analysis. The author concludes that the Federal model of PPBS in all of its formality is dead among State governments. But the underlying ideas of PPBS (adoption of a longer-range view, emphasis on alternatives, evaluation of alternatives in terms of effectiveness, development of a capacity for more thorough systematic analysis) are alive in many States.

The author also presents the political dimensions of the budgetary process in two chapters which view the process from the perspective of the Governor and the legislature.

The frustrating feature of this book is that its descriptions and analyses of the State budgetary process are too general. Although the author clearly has had considerable contact with budgeters in many States, he has not woven examples of State practices into the discussion. Unless the reader has had prior experience with the budgetary process, particularly in several settings, the concepts presented may appear to be too abstract to relate to actual practice.

18:1.2/72-1

Whatever Happened to State Budgeting?, S. Kenneth Howard and Gloria A. Grizzle, eds., 503 pp. (Council of State Governments, Lexington, Ky.).

This excellent volume collects 51 articles, essays, and excerpts from books concerning the theory and practice of budgeting. The contributions reprinted here are from a variety of sources, including professional journals in public administration, political science, and planning, and publications by the National Association of State Budget Officers and the Council of State Governments. Accordingly, the contents of this collection range beyond the budget process.

The articles are loosely structured around five themes: 1) Scope of State Budgeting; 2) The Budgeter: His Role and Relationships with Other Participants; 3) Developing the Basis for Budget Decisions; 4) Techniques for the Budgeter; and 5) Innovation and Change. The quality of the articles ranges widely, but the following "classic" articles or essays are included: "The Lack of a Budgetary Theory," by V. O. Key, Jr.,; "Toward a Theory of Budgeting," by Verne B. Lewis; "The Road to PPB: The Stages of Budget Reform," by Allen Schick; "Roles and Symbols in the Determination of State Expenditures," by Thomas J. Anton; "The Systems Approach and Public Policy," by E. S. Quade; "Systems Analysis and the Political Process," by James R. Schlesinger; "Rescuing Policy Analysis from PPBS," by Aaron Wildavsky; "Planning and Predicting: Or What to Do When You Don't Know the Names of the Variables," by Leonard J. Duhl; and "Social Planning: The Search for Legitimacy," by Martin Rein. Having ready access to these articles alone makes the volume a welcome addition to the bookshelf.

18:1.2/72-2

Dollars and Sense: Budgeting for Today's Campus, Gene A. Budig, ed. (College and University Business Press, McGraw-Hill Publications Co., Chicago).

This book contains two essays which give the legislative and executive perspectives on State budgeting for higher education: "The Governor's Role in the Budget Process," by T. N. Hurd and Donald Axelrod, and "Legislative Expectations of the Budget," by A. Alan Post. The essay by Hurd and Axelrod is an overview of policy issues considered by the executive budget staff, and is designed for the reader with little previous exposure to executive policymaking in the budget process. Included is a position description for the office of Governor, with a discussion of the executive power of appointment, the responsibility for assuring accountability and productivity, and the executive role in interstate relations. The authors stress the need for a planning process in higher education, and for the proper coordination of the programs of multiple systems of higher education. Hurd and Axelrod briefly examine the components of the operating budget, summarizing the policy issues associated with the technical aspects of the budget. There is a particularly good presentation of the policy questions raised by the executive budget office concerning capital budgets. In conclusion, the authors consider how the executive budget office staff assesses the administration's fundamental policy for higher education, and elaborate on the executive concern for financing and implementing the budget.

Post observes that planning and budgeting are the two most important legislative roles, with the budget being the principal planning document. In examining the flow of the budgetary process as seen by the legislature and legislative staffs, Post seeks answers to several questions: What planning and budget materials does the legislature receive and what form do these materials take? When does the legislature receive such materials, and in relation to what legislative processes? Which legislative organization receives the materials, to whom is this group directly responsible, and what staff capacity does it have for analysis? What roles do the higher education agencies and the Governor play in such review? To what extent is legislative review integrated into the actual decisionmaking processes of the legislature so the members will have access to the analysis, along with sufficient confidence in it to assure its effective use in making policy decisions? Post notes that the relationship of the legislative staff to the partisan political structure of the legislature has an important bearing on the staff role in the budgetary process. Post's presentation is enriched with examples of the variations in the budgetary processes in different States. In summary, this essay is an excellent introduction to the legislative side of budgeting.

18:1.2/71

Budget Innovation in the States. Allen Schick. 223 pp. (The Brookings Institution, Washington, D.C.).

Allen Schick and Aaron Wildavsky between them cover most of the perspectives on budget reform. Schick's book is a study of the two most recent attempts to improve State budgeting: the introduction of performance budgeting in the 1950's and the planning-programming-budgeting systems (PPBS) movement of the 1960's.

The analysis of the historical development of these two budget innovations is excellent. Interestingly, Schick notes that PPBS advanced independently of public administration because of the infusion of the economics-planning ethic into budgeting. Thus, where previous attempts at budget reform were concommitant with reorganization, PPBS had a new conceptual base dependent upon classic economics and planning notions of rationality rather than on political-administrative theories.

Performance budgeting, with its emphasis on activity classifications, performance measurements, and performance reports, sought to regroup expenditure accounts to conform more closely with organizational functions. Schick notes that the changes introduced by budgeting did not meet the potential. In part, there was no urgency in the 1950's for major reform. Budget mechanisms at that time were performing satisfactorily, and much of the change was in the form of budget presentation, an area in which participants simply could not get excited. To highlight these observations, Schick provides three brief case histories of the development of performance budgeting in Maryland, New York, and Ohio.

Schick notes that as of 1969 more than half of the States were either implementing or considering PPBS in some form. Significantly, in only one or two States had PPBS worked its way into the decision-making process of State government. It many States, the rewards of PPBS are mixed in with the regular budget work; consequently, the analysis and plans which are at the heart of PPBS tend to be disregarded. One of the problems has been that PPB has not been incorporated within a formal budgetary structure. Schick provides extensive case studies of five States–California, New York, Wisconsin, Hawaii, Pennsylvania–which are the most advanced in implementing PPBS. In none of the five States was the implementation a clear-cut failure or success.

Schick observes that budget innovation will succeed only when the State reexamines the ways in which it uses its budget process. One of the first steps in budget reform is to reconstruct the budget control mechanisms so that the needs for control can be met while the budget machinery is revamped to include planning.

18:1.2/67

"Roles and Symbols in the Determination of State Expenditures," Thomas J. Anton, *Midwest Journal of Political Science*, Vol. 11, No. 1, February, pp. 27-43.

The author has developed a relatively simple yet powerful model to explain the manner in which State officials decide to spend public funds. His model uses the concept of role to summarize the characteristic behavior of a State-level participant in the budget process. Once defined, the symbolic significance of the roles is assessed in terms of the impact on the budget process.

Within this model, State agency officials (such as institutional representatives) are seen as expansive; in all likelihood, they will request more money next year than is currently available to them. Budget review officials see their role as watchdogs of the Treasury, or as budget-cutters. These officials generally expect State agency requests to be expansive. Thomas J. Anton argues that Governors are "money providers" or "budget balancers," and only infrequently can be viewed as decisionmakers in the determination of State expenditures. (This characterization of Governors was perhaps more accurate 10 years ago than today.) Finally, similar to Governors, legislators are seen to participate in the search for new revenue rather than in the determination of State expenditures.

Anton observes that the participants in the budget process use a set of symbols to rationalize their role behavior. These rationalizations mask the true meanings of action. Agency administrators justify budget expansion on programmatic grounds, or in the name of Service; in fact, the administrators are attempting to protect themselves against the consequences of a budget reduction in a no-increase budget which cannot withstand a cut. Budget review officials and Governors justify budget reductions in terms of Economy and Efficiency; in effect, these officials are seen to be protecting a peculiar status within a system which knows no other justification for such a status. Governors and legislatures use both programmatic and management symbols in disguising action aimed at increasing revenues to balance budgets which show little evidence of either new programs or efficiency. In summary, the budget symbolizes responsibility; the cut symbolizes economy; and the increase, service.

Although the symbolic interpretation of political behavior has drawn some criticism, the wealth of insight presented in this article makes it "must" reading.

1.3 Federal Budgetary Process

18:1.3/74

The Politics of the Budgetary Process (2nd edition), Aaron Wildavsky, 271 pp. (Little, Brown and Company, Boston).

This book was among the first to report on the budgetary process broadly as a system of political interactions rather than narrowly as a set of technical accounting procedures. It is required reading for anyone who wishes to become familiar with the dynamics of the budgetary process. Although the focus of the book is on budgeting at the Federal level, the analysis developed applies to the process at the State and local levels as well.

Wildavsky first defines the term "budget" as seen from a number of different orientations, and then shows how various participants examine the political environment and make calculations which serve as the basis for budgetary decisions. He stresses the incremental nature of the budgetary process. The author places the participants of the process (departments, bureaus, Office of Management and Budget, appropriations committees) within a system of roles and perspectives to explain budgetary behavior. Within this framework, the budget process is examined through the strategies adopted by the participants, including strategies designed to capitalize on the fragmentation of power in national politics.

Wildavsky examines briefly the history and politics of budget reform, and outlines how new procedures developed from traditional budgeting procedures. One chapter is devoted to the concept and implementation of a planning-programming-budgeting-system (PPBS). The strengths and weaknesses of PPBS are discussed, and the author explains why, in his view, PPBS ultimately fails. The author offers an appraisal of existing budgetary practices and suggests major alternatives. He further maintains that the present budgetary process, though imperfect, performs much better than many observers thought and has many features which are superior to the proposed alternatives. In particular, Wildavsky argues that future reform should concentrate on a more thoroughgoing incremental approach rather than a more comprehensive one.

Wildavsky concludes this work with an essay on the changing role of Congress, particularly in relation to the decline of guardianship of the Treasury Department. This trend is described in the context of trends in national budgeting in the modern democracies. Drawing upon the British experience, the author discusses what reforms should and should not be undertaken to strengthen the role of Congress in the budgetary process.

An extremely useful appendix outlines the major steps in the Federal budgetary process.

18:1.3/68

The Politics and Economics of Public Spending, Charles L. Schultze, 143 pp. (The Brookings Institution, Washington, D.C.).

The purpose of this collection of lectures is to demonstrate how systematic analysis can coexist with the political process.

The framework for Charles L. Schultze's analysis is the Federal budget process of the mid 1960's, when the use of planning-programming-budgeting systems (PPBS) spread from its birthplace in the Department of Defense to the entire Federal Government. Schultze's objective was to examine how systematic analysis and long-range planning have been applied to the Federal Government's civilian programs.

Schultze contrasts the "political" or negotiation mode of decisionmaking, with its emphasis on incrementalism, with rational budgeting (in the form of PPBS), with its emphasis on the examination of a wide range of alternative means toward some desired end, and demonstrates how analysis can be used to support the bargaining model of decisionmaking. Although the emphasis throughout the book is on systematic analysis, the author demonstrates that he has an experienced sensitivity to the political environment. He firmly believes that the increasing complexity of social programs demands more analytical consideration in their design and management.

Schultze's arguments are very neatly presented. After tracing the evolution of budget techniques, he compares rational decisionmaking (PPBS) with "muddling through", or incremental decisionmaking. The most important contribution of the book is the discussion of the role of analysis in political decisions, and the future directions of analysis. By contrast, the author clearly understates the obstacles to implementing the formal PPBS model in the Federal setting. Schultz concludes with some suggestions for political and administrative improvements in the decision processes. The emphasis here is on the analytical design of incentive systems, a context in which detailed decisions about programs can be made on a decentralized basis.

2.0 FORMULA BUDGETING

18:2.0/78

A Review of Selected State Budget Formulas for the Support of Postsecondary Educational Institutions, Cynthia A. Linhart and John L. Yeager, 114 pp. (Office of University Planning, University of Pittsburgh, Pa.).

As part of the process of reexamining its Master Plan for Higher Education, the Commonwealth of Pennsylvania undertook a review of alternative formula budgeting techniques to be adapted possibly in Pennsylvania. This report, which is the staff summary of a task force review, is an excellent overview of formula budgeting in this country. The major focus of the report is on the technical features of budget formulas, with some discussion of the processes associated with the development, implementation, and maintenance of budget formulas.

Most of the report is devoted to a summarization of the literature on the design and structure of State budget formulas, and a review of budget formulas from 10 States: Alabama, Louisiana, Michigan, New Mexico, Ohio, Oklahoma, Tennessee, Texas, Virginia, and Washington.

The budget formulas were compared according to eight major categories of institutional activity, following the framework established by the National Association of College and University Business Officers (NACUBO) for Educational and General Expenditures. This comparison classified each formula according to three criteria: 1) general approach (i.e., total entitlement or line item); 2) method of calculation (i.e., staffing standard, workload, or percentage base); and 3) major components (i.e., the specific variables addressed in the formula). An appendix contains a written description and a mathematical representation of each of the 10 State budget formulas.

The discussion of the development, implementation, and maintenance of budget formulas is brief, and is largely a summary of the monograph by Meisinger (18:2.0/76-1). The report provides recommendations for a Commonwealth of Pennsylvania budget formula, focusing primarily on its technical aspects. However, the recommendations do contain a consideration of the *process* by which the formula might be implemented.

18:2.0/76-1

State Budgeting for Higher Education: The Uses of Formulas, Richard J. Meisinger, Jr., 266 pp. (Center for Research and Development in Higher Education, University of California, Berkeley).

This monograph is one of a series from the Center for Research and Development in Higher Education which summarizes the results of a 3-year, 50-State study of the processes used by State agencies to formulate the budgets of colleges and universities. This study provides a comparative analysis of the historical development and use of instructional budgetary formulas in California, Illinois, and Texas. The comparative historical analyses are used to develop a framework which explains the adoption and use of budgetary formulas. The central analytical and theoretical questions addressed by the study are: 1) What strategies and counter-strategies are adopted by each organization in a system of higher education which employs budgetary formulas? 2) What are the consequences of the organizational strategies and counter-strategies for uncertainty reduction and the locus of budgetary control? and 3) What functions are performed and what dysfunctions result through the application of budgetary formulas? The primary emphasis is on the interorganizational relationships between executive and legislative budget agencies, higher education coordinating agencies, and institutions of higher education. The work is an extension of Miller's 1964 pioneering study (*State Budgeting for Higher Education: The Uses of Formulas and Cost Analysis*) but focuses more on the political dynamics of formula use than on the technical details of the formulas themselves.

The principal findings of the study indicate that the introduction of a formula into a budgetary process requires sources of support for the formula concept, an organizational framework for implementation, and a technological base upon which to ground the formula. Changing a formula requires some pressure for change (whether internal or external to the system of organizational participants), an organizational framework for adjustments, and technological and data bases for the altered formula. The factors which appear to account for the dissolution of formulas are the condition of the State's economy, the degree to which the formula is manipulated by the various actors, and the inadequacies of interorganizational communications. The study examines each of these factors in some detail.

The author concludes that all strategies employed by the State agencies, coordinating agencies, and institutions to reduce uncertainty in organizational activities follow two model patterns; 1) the shifting of uncertainty to other levels, and 2) the cumulation of excess resources in anticipation of future contingencies. Furthermore, one level's strategies have parallel consequences for other levels: 1) the locus of budgetary control is shifted, and 2) the balance of slack resources at each level is upset.

18:2.0/76-2

"Formula Budgeting: Requiem or Renaissance?", Charles E. Moss and Gerald H. Gaither, *The Journal of Higher Education*, Vol. 47, No. 5, September/October, pp. 543-563.

This article is an excellent capsule summary of the formula budgeting concept. The authors outline the basic classifications of budget accounts and briefly discuss the historical events leading to formula development. Four reasons for development and implementation are noted: 1) political complexities; 2) the need for a more equitable distribution of resources; 3) inadequate revenues; and 4) increased demands for accountability. A fifth reason, the need to simplify the budget process, is implied in the discussion.

The authors define the term "budget formula" by drawing upon the earlier work of James L. Miller, Jr. Current formulas are categorized according to the basic computational method used: 1) the rate-per-base factor unit, 2) a percentage of base factor, and 3) a base-factor position ratio with salary rates.

The most important contribution of the article is the summary of the advantages and disadvantages of formulas. Among the advantages, formulas provide an objective cost and productivity measure for comparison between institutions, provide for a more equitable distribution of resources, help to minimize interinstitutional and State-institution conflict, and ensure that higher education gets its fair share of State resources. The disadvantages include the inadequacy of the linear approach to funding in steady-state and declining enrollment situations, the fact that formulas do not explicitly address program quality, the leveling effect of formula-generated support, and the failure of most formulas to recognize and fund non-traditional learning or continuing education activities. The discussion of formula funding during enrollment downturns is particulary good.

The authors are optimistic that formulas will continue to be used to fund higher education. Despite the disadvantages of formulas, no other method currently meets as many of the needs of the budget process. Formulas will have to be adjusted to ensure that institutional support is not seriously eroded when enrollments level or decline; furthermore, qualitative factors will have to be introduced, especially when enrollments decline. Finally, it must be noted that current enrollment-driven formulas are not adequate to support outreach activities under conditions of stable and declining enrollments.

18:2.0/75

"Constrained Ratio Approach to Allocating Instructional Resources," William B. Simpson, *Socio-Economic Planning Sciences*, Vol. 9, No. 6, pp. 285-292.

This article addresses the question of whether there is anything inherent in the way resources are allocated to an individual institution which would restrict faculty in developing new teaching methods. The author examines four allocative approaches to budgeting, all involving formula procedures. These approaches are appraised from the standpoint of efficiency and innovation. The tendency observed is for inefficiencies to lead to additional budget support, and for temporary accommodation to lead to lesser support. Moreover, the author notes, "operational flexibility in the use of funds . . . can at most assure the *opportunity* for innovation. Whether or not there is an *incentive* to innovate will depend in part upon what the effect is of the innovation on the resources available in the subsequent years." The focus of the analysis is on the formula used by the instruction-oriented California State University and Colleges system.

To improve the current budgeting procedures, the author proposes a constrained ratio approach in order "to arrive at a level of instructional faculty staffing for an institution for its continuing programs by an approach which leaves the institution with the opportunity and incentive to exercise discretion as to the best operational use of the resources allocated to it, while protecting the legitimate concern of the governing board . . . as to the expenditure of resources." The proposed model for generating the required number of faculty positions calls for a formula with adjustable weights to be applied to projected enrollment at different levels of instruction. Adjustments in the weights would be made by individual academic departments to reflect the mix of instructional modes employed by the department. The constrained ratio approach involves a mathematical economic model. The author argues that the effective use of resources is encouraged because the model allows for greater awareness and consideration of the costs of alternative instructional methodologies at the instructional level.

The mathematical model is clearly explained, and the discussion points to a number of important policy issues which should be addressed when developing any budget allocation procedure.

18:2.0/73-1

"Formula Budgeting on the Down Side," W. K. Boutwell, pp. 41-50 in *Strategies for Budgeting*, George Kaludis, ed., **New Directions for Higher Education**, No. 2, Summer. (Jossey-Bass, San Francisco).

This brief article is important in that it discusses the difficulties in applying existing budget formulas in times of leveling or declining enrollments. Formulas became an integral part of the budget process during the enrollment growth period of the 1950's and 1960's because, as enrollments increased annually, the formulas tended to guarantee annual budget increases. Although sophisticated analytical budget techniques have been developed over the last 15 years, they have not displaced the need for formulas.

The author notes three features of formulas which are harmful to institutions when enrollments decline. First, most formulas are based on the average cost per student and hence are linear in nature. The problem is that linear formulas do not recognize the economics of scale principle (downward sloping average cost curve). Secondly, most formulas have been adjusted downward because of the economics of scale associated with large institutions. As fiscal demands generated by increasing enrollments exceeded resources, formula ratios were increased to reduce resource demands. Thirdly, most formulas are based upon the number of students at different levels of instruction and ignore differences among disciplines or programs. In particular, many formulas ignore the number and variety of disciplines.

Also considered are management adjustments which must occur at the institutional level along with budget reductions. The adjustments discussed include personnel reductions, changes in policies governing tenure and promotion, and increased faculty development. The author concludes that (as of 1973) formulas, planning procedures, and management policies of most institutions are still expansion-oriented. Regarding formulas, the author does not propose solutions to the problems, other than to indicate factors to be considered in the reworking of existing formulas.

18:2.0/73-2

A Comparative Analysis of the Existing Budget Formulas Used for Justifying Budget Requests or Allocating Funds for the Operating Expenses of State-Supported Colleges and Universities, Francis M. Gross, 114 pp. Monograph No. 9, Vol. 14 (Office of Institutional Research, University of Tennessee, Knoxville).

This report is an excellent summary of the technical aspects of budget formulas in use during 1972-73 or 1973-74. The author surveyed all 50 States to assess the extent to which formulas were used in this country, and found that 25 States used budget formulas which conformed to his definition. The following observations were also made: 21 States applied formulas statewide; 23 States practice zero-base budgeting while 2 budgeted incrementally; and 21 States used formulas to justify budget requests while 4 used them for allocating appropriated funds among institutions.

The author provides a detailed comparative analysis of each formula with respect to the following functional budget areas: instructional and departmental research, organized activities related to instruction, libraries, general administration and general expense, organized research, extension and public service, and physical plant operation and maintenance. He also recognizes the base (variable) and formula (fixed) factors used, the methods of computation, and the extent of differentiation among academic areas, levels of instruction, and institutions. Formulas were classified according to three basic computational methods: 1) rate-per-base factor unit, 2) percentage base factor, and 3) base factor-position ratio with salary rates.

The author establishes a set of general standards of formula acceptability and seeks to evaluate the various States according to them. This rating is not completely successful because there is an insufficient discussion of non-technical dimensions (e.g., political or historical factors) which influence formula development.

One particularly interesting observations is that 8 States used formulas to support an "equalization policy" wherein all institutions were supported from the same formula base, while 13 States followed a funding policy which differentiated among institutions according to mission or

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location. The author also draws an important conclusion in his study: no single formula or combination of formulas could be designated as a national model because no such device could reflect the diversity of institutional types and State systems of higher education. Finally, the guidelines proposed for developing and applying budget formulas are essential reading for anyone involved in developing or modifying formulas.

3.0 PLANNING-PROGRAMMING-BUDGETING (PPB)

18:3.0/73

Program Budgeting: Universities, Management Improvement Program, Ohio Board of Regents, 92 pp. (Ohio Board of Regents, Columbus).

This volume is one of a series of manuals designed to make higher education administrators more aware of improved management techniques. It contains general guidelines, principles, and broad recommendations for good management within universities and colleges, rather than detailed and specific procedures. This manual should be considered a primer for those with no previous experience with program budgets in the college or university setting.

The manual has two key sections and a set of technical appendices. The first section examines the steps in developing a program budgeting system. The stages are presented in cookbook fashion: identify all sources of funds, relate funds to expenditure accounts, develop clear-cut departmental responsibility, translate program plans into departmental budgets, monitor income and expenditures, and identify goals and objectives. This section identifies a program structure, discusses the problems of identifying inputs and outputs, emphasizes the importance of income projections, and demonstrates how to translate program decisions into organizational budgets. The program and costing structures discussed are based upon the National Center for Higher Education Management Systems (NCHEMS) products.

The second major section outlines the implementation of a program budget. The principles are presented in terms of internal considerations, external considerations, staff resources required for program budgeting, the information data base and its maintenance, and resource allocation analytical aids.

The technical appendices include: the integration of a sample line-item budget with a program budget; the NCHEMS Program Classification Structure; a discussion of program measures; the advantages and disadvantages of various budget preparation models (very useful); an example of management by objectives and evaluation; a sample budget cycle and timetable; sample program budget data profiles; and a brief summary of NCHEMS products. The manual contains a complete glossary of budget terms.

18:3.0/72-1

PPBS in Higher Education Planning and Management: From PPBS to Policy Analysis, Frederick E. Balderston and George B. Weathersby, 106 pp. (Report P-31, Ford Foundation Program for Research in University Administration, University of California, Berkeley).

This report discusses how the principles of planning-programming-budgeting systems (PPBS) have been adapted to the realm of higher education. There are three principle sections of this report. The first summarizes the principles of PPBS, and traces the Federal and State experience with PPBS in the United States, including the role that the National Center for Higher Education Management Systems (NCHEMS) has played in introducing features of PPBS into higher education. Further, the authors discuss the applications of PPBS to postsecondary education. Perhaps the most significant observation made in this section is that the activity-oriented view of programs and program elements (e.g., department, school, or college organizational units defining program) rather than the objective-oriented view (which focuses on output measures) has governed much of the subsequent development of PPBS in higher education.

The second section, probably the most interesting, explores the concepts of PPBS by examining how it was implemented by the multicampus University of California. By 1971, the use of PPBS by the State of California to justify and negotiate the allocation of resources, and by the University of California for internal resource distribution and priority allocation, had diminished considerably. Other forms of analysis and decisionmaking displaced much of the PPBS structure originally envisioned by participants in the budget and planning processes.

The third section asks how policy analysis can be applied in the academic setting. The analytical base for policy analysis is outlined, including information systems and analytical models. To demonstrate how these tools are employed, the authors present a detailed case study of year-round operations at the University of California.

In summary, the authors conclude that the benefits to be gained from the formalism of PPBS may not offset the costs of implementing the ponderous PPBS machinery. However, the use of analytical techniques aimed at specific policy questions can prove to be of considerable value to higher education administrators.

18:3.0/72-2

Planning-Programming-Budgeting: A Systems Approach to Management (2nd edition), Fremont J. Lyden and Ernest G. Miller, eds. 423 pp. (Markham Publishing Co., Chicago).

This book contains 21 papers, all of which are reprinted from other sources. The papers are organized into eight sections: 1) Planning-Programming-Budgeting Systems (PPB) in Perspective, where PPB is considered in terms of its historical and institutional settings; 2) Budgeting and the Political Process, which addresses how PPB relates to the political process; 3) The Program Planning-Evaluation Base of PPB; 4) Program Design: PPB Structure and Information Requirements, which discusses the incorporation of program plans into the PPB budgeting format: 5) Program Design: Analytic Techniques, which explains the rationale underlying three of the major analytic techniques used in the PPBS approach; 6) Relating Goals to Systems, which examines the problem of crosswalking information; 7) Implementing PPB, which discusses the problems and experiences involved; and 8) PPB: Critiques and Prospects, which addresses the potential of PPB in the context of various schools of criticism.

The introduction by the editors is particularly thoughtful. They note that the first problem facing an implementing organization is whether to direct initial attention to the development of a program structure or to the focusing of analytical skills to be used for specific program issues. Directing attention to skills development without first developing a goals structure can be inefficient. On the other hand, developing a program structure is a difficult task. The editors observe that one question facing developers of a program structure is: Should a program format be developed which will replace existing budget formats? It is a question which must be answered carefully, because different formats yield different kinds of information. The editors contend that another problem with implementation relates to analytic methods. The weight of systematically analyzed evidence is likely to draw attention away from those considerations which cannot be analyzed rigorously.

Michael J. White's concluding paper, "The Impact of Management Science on Political Decision Making," is an excellent summary of the critiques of PPB. White also makes predictions on the future directions of management science and operations research in civilian politics.

18:3.0/71

The Budget's New Clothes: A Critique of Planning-Programming-Budgeting and Benefit-Cost Analysis, Leonard Merewitz and Stephen H. Sosnick, 318 pp. (Markham Publishing Co., Chicago).

This book, which is one of the most thorough critiques of PPB available, draws upon much of the extant PPB literature. The authors discuss the five elements of PPB: program accounting, multi-year costing, detailed description of activities, zero base budgeting, and the quantitative evaluation of alternatives (or cost-benefit analysis). The discussion is framed by the Bureau of the Budget guidelines for PPB. The authors devote a large part of the book to an examination of cost-benefit analysis. They survey the methods that have been suggested for calculating benefits of particular types of expenditures, including among others: navigation, irrigation, flood control, health, and academic and vocational education. Two case studies of large public investment projects are examined using cost-benefit analysis: the U.S. Supersonic Transport, and the California Water Plan. The authors are pessimistic of the usefulness of cost-benefit analysis for projects of such size and complexity. Also, the criterion most often used in cost-benefit analysis gives exclusive attention to economic efficiency, but it is difficult to reach agreement on an alternative criterion.

The authors note some positive features of PPB: the grouping of organizations by function is one way to obtain output-oriented cost information; the estimation of future expenditures is useful in special cases when a multi-year commitment is made; and, quantitative evaluation is reasonable when it is necessary to pre-screen policy alternatives. Merewitz and Sosnick also observe that preparing alternative budget requests would combine the best features of detailed description and zero-base budgeting.

The negative conclusions reached are that it is unwise to impose program accounting, to project future expenditures for established programs, to prepare statements of purposes, to justify budget requests without reference to previous appropriations levels, or to perform quantitative analyses for all situations. The authors argue that program accounting generates information of limited value because it reflects arbitrary cost allocations. Both multi-year costing and zero base budgeting are viewed as costly, especially when compared with alternative approaches. Quantitative analysis is seen to be more effective in choosing among projects than in deciding whether or not to undertake them.

18:3.0/70-1

Why Planning, Programming, Budgeting Systems for Higher Education? James Farmer. 24 pp. (Western Interstate Commission for Higher Education. Boulder, Colo.).

This brief volume is concerned with the kind of results that can be expected from the use of PPBS in higher education. The conceptual difficulties involved in applying the PPBS techniques—when outputs cannot always be identified and are the product of different joint inputs—

are recognized. Knowing the limitations of the system adds strength to the author's several examples of the effective uses of PPBS: to provide additional insight into program changes by identifying resource requirements and to develop program costs to improve understanding of objectives and outputs. Three methods of implementing PPBS are listed: through planning studies, evolutionary development, and the "turn-key" changeover.

18:3.0/70-2

Planning, Programming, Budgeting for Ohio's Public Institutions of Higher Education, John D. Millett, 216 pp. (Ohio Board of Regents, Columbus).

In setting forth certain common factors or aspects of planning-programming-budgeting for Ohio's public institutions of higher education, the author emphasizes that the Ohio Board of Regent's position is not to prescribe a standard pattern of purpose, organization, and output for any individual institution. The Board urges only that patterns of purpose, organization, and output be consciously determined and clearly delineated by individual institutions. The first chapters describe the general purposes of higher education and its inherent organization to utilize resources and establish objectives. Some rather straightforward quantitative measures of the outputs of a higher education enterprise are described, together with associated programming procedures. For the purposes intended, the key chapters on budgeting inputs for current operations and the planning and programming of capital improvements are adequate. A more rigorous defense of suggested standards would, however, be welcome.

18:3.0/69-1

Program Budgeting: Program Analysis and the Federal Budget (2nd edition), David Novick, ed., 382 pp. (Holt, Reinhart and Winston, New York).

This book is an integrated collection of essays by 11 authors who examine the principles of program budgeting and its practical application. The editor presents an introductory chapter on the origin and history of program budgeting. The remainder of the book is organized into three parts. Part I discusses the role of budgeting within the larger scope of governmental decisionmaking. Previous efforts at budget reform are detailed as background to a discussion of the conceptual framework of program budgeting. Particular attention is given to the use of cost-benefit analysis, the most prominent analytical tool in the program budgeting arsenal.

Part II traces the development of program budgeting in the Department of Defense. The authors discuss a limited number of illustrative examples of how the concept can be adapted to other areas of the Federal Government, including space, transportation, natural resources, education, and health. The emphasis in this section is on the contribution that program budgeting makes in the structuring of the problem and in the assembling and analyzing of statistical data.

Part III addresses the implementation and operation of the program budget. The focus is on potential problems and limitations involved in the implementation of program budgeting, and on ways to overcome these deficiencies. The essays by Roland N. McKean and Melvin Anshen ("Limitations, Risks, and Problems") and George A. Steiner ("Problems in Implementing Program Budgeting") are particularly insightful. This section concludes with a discussion of the implications of the program budget operations for the organizations and individuals whose works would be most affected by it.

18:3.0/69-2

"Symposium on PPBS Reexamined," *Public Administration Review*, Vol. 29, No. 2, March/April.

This symposium, composed of eight papers, is a follow-up to the *Public Administrative Review* 1966 PPBS Symposium (see 18:3.0/66). Allen Schick's paper, "Systems Politics and Systems Budgeting," continues with the basic message: incremental change through the interaction of partisan interests is inadequate for dealing with the complexity of problems in the United States today. Schick contends that analysis must be applied to these problems, and that planning-programming-budgeting systems are one way of doing this. Bertram M. Gross, in "The New Systems Budgeting," presents an overview of program budgeting, noting in particular that it must be reshaped to fit different conditions and environments, and that PPBS is an analytical framework rather than a technique. Yehezhel Dror comments upon the Schick and Gross papers, observing that PPBS must be considered within a broad framework of efforts to improve the public policymaking system.

C. W. Churchman and A. H. Schainblatt co-author "PPB: How Can It Be Implemented?", in which the empirical focus is on State-level implementation. The example used throughout this particularly insightful paper is a statewide alcohol-related mission. What makes the paper very interesting is that Churchman and Schainblatt show how an analyst tries to look at his organization, and how this analyst interacts with the managers.

Aaron Wildavsky plays the role of devil's advocate in "Rescuing Policy Analysis from PPBS." This is another of Wildavsky's papers which has become a classic, and is recommended reading for all people interested in budgeting. Wildavsky holds to his contention, made three years earlier in his *Public Administration Review* paper, that PPBS would run up against serious difficulties. He explains why the Department of Defense was a bad model to use for the government-wide implementation of PPBS. Wildavsky goes so far as to say that no one knows how to do program budgeting, and argues that the fixation of PPBS on program structure leads to an emphasis on data collection at the expense of policy analysis.

18:3.0/66

"Planning-Programming-Budgeting Symposium," *Public Administration Review*, Vol. 26, No. 4, December.

This symposium contains six papers on various aspects of PPB: "The Road to PPB: The Stages of Budget Reform" by Allen Schick; "Toward Federal Program Budgeting" by Werner Z. Hirsch; "The Planning-Programming-Budgeting System: Rationale, Language, and Idea-Relationships" by Samuel M. Greenhouse; "A Management Accounts Structure" by Francis E. McGilvery; "The Program Budget and the Interest Rate for Public Investment" by Robert L. Banks and Arnold Kotz; and "The Political Economy of Efficiency: Cost-Benefit Analysis, Systems Analysis, and Program Budgeting" by Aaron Wildavsky.

The papers by Schick and Wildavsky have become classics and should be read by anyone interested in budgeting. Schick traces the evolution of budgetary reform in the United States through three distinct stages: control orientation, management orientation, and the planning orientation. In the initial stage, the primary emphasis was on central control of spending, with the budget used to guard against administrative abuse. The detailed classification of objects of expenditure was the principal control mechanism. The second stage was concerned with the efficient performance of work and prescribed activities. The chief contribution of this stage was the performance budget. The third or planning stage is reflected in PPBS, which has roots in Keynesian economics and systems analysis. Schick notes that with PPBS the budget orientation shifts from incremental to comprehensive, the emphasis in budgeting shifts from justification to analysis, and that the usual bottom-to-top information and decisional flow is reversed.

Wildavsky is perhaps the foremost critic of PPBS, and some of the reasons are established in his paper. He examines the underlying economic and political assumptions of cost-benefit analysis, discusses the limitations of cost-benefit analysis, and argues that cost-benefit analysis has had mixed results. Program budgeting is viewed as a form of political systems analysis. Consequently, Wildavsky discusses the underpinnings of systems analysis, noting that a distinguishing feature is that the objectives are either not known or are subject to change. Wildavsky concludes that even with a modest level of cost-benefit analysis, it becomes difficult to maintain pure notions of efficiency. Moreover, he believes that economic rationality cannot displace political rationality.

19

Space Management and Projection

Harlan D. Bareither

Space management and projection in higher education involve activities necessary to determine and support academic program facilities requirements and to maintain facilities in operating condition. While some form of space management and projection has always been practiced by colleges and universities, it was after World War II before fairly uniform terms and procedures were developed. The massive amount of new construction required to accommodate post-World War II enrollment increases required extensive State and national level planning using comparative standards based on uniform methods of analyzing and classifying physical facilities. These developments, through 1973, have resulted in uniform procedures for space classification, program classification, and building classification throughout both Federal and State agencies as well as postsecondary institutions.

The entire subject of space management and projection can be addressed by answers to four basic questions: What space is available? (space inventory will answer this). Is the space being used efficiently? (space utilization studies will answer this). What facilities are required? (projections will answer this). What support level is required to properly maintain the facilities? (obsolescence studies, life cost studies, etc., will answer this). The same degree of detail is not, of course, required to answer these questions at Federal, State, and institutional levels. However, all information should be part of the same data base and be consistent in definition irrespective of level of aggregation.

From an institutional standpoint, the task of space management and projection is twofold: 1) It encompasses the basic information gathering required for reporting to Federal and State agencies, and for preparation of internal institutional reports, and 2) it involves activities necessary to manage and maintain campus facilities.

There are numerous references available on methodologies for collecting space data, varying in scope and detail to suit the special needs of various Federal and State agencies. This bibliography emphasizes basic procedures for data collection methods. However, readers should be alert to additional data requirements and alternative procedures required by their respective State agencies. One State procedure is referenced as an example.

Data Collection and Analysis. The first step in space management and projection is collection of data to identify the amount of space available, the utilization of that space, and the total facilities required. The entries in this section have been selected to provide a general overview of the field and identify references to various alternative collection methodologies. Only one entry is provided in each of the *General* and *Inventory* subtopics since these two texts are considered basic primers. They represent a general overview of the field and include the necessary procedures for uniform reporting of facilities inventory data to State and Federal agencies. Both references have annotated bibliographies.

The topics of *Utilization* and *Projection* contain several entries to identify major alternative procedures in these fields. Most of these references also contain bibliographies of additional source materials. The reader may also wish to consult the individual State manuals of procedures for utilization and projection of facilities developed by many State Facilities Commissions.

The topic of *Projection* involves many factors in addition to the physical aspects of space which are the primary focus of inventory and utilization study. Projection of facilities involves translation of the institution's activities, as defined by its scope and mission, into facility requirements. This involves not only inventory and utilization of existing facilities, but knowledge of scheduling patterns for course offerings, enrollments by discipline and level of student, institutional philosophies, and the establishment of space standards for each type of institutional activity.

The *Statistical Information* subtopic presents examples of the various types of reports and information requested by State and Federal agencies.

Specific Space Management Considerations. This subtopic contains references that space managers may consult in meeting specialized facility requirements and in providing for efficient plant operation and maintenance. Some areas are relatively new, such as designing or adapting facilities to accommodate the handicapped. Energy conservation has always been of some concern, but now it is a matter of critical importance. The writings in these fields are often exploratory but are useful in directing initial efforts.

The entries under the subtopic *Specific Space Management Considerations* may be used at the institutional level to solve specific space management problems within existing facilities. In general, these entries outline courses of action that have been successfully pursued by others in the field of space management and represent the current "state of the art."

TOPIC ORGANIZATION

19: Space Management
- 1.0 Data Collection and Analysis
  - 1.1 General
  - 1.2 Inventory
  - 1.3 Utilization
  - 1.4 Projection
  - 1.5 Statistical Information

- 2.0 Specific Space Management Considerations
    - 2.1 Energy Conservation
    - 2.2 Access for Handicapped
    - 2.3 Obsolescence Studies
    - 2.4 Building Costs, Life Costs, and Maintenance

1.0 DATA COLLECTION AND ANALYSIS

1.1 General

The following volume is cited and fully annotated under Topic 15: Planning–Issues, Theory, Reference (15:2.0/74), but is briefly annotated here because of its relevance to this section:

Statewide Planning in Higher Education, Chapter X, Space Management and Projection, pp. 417-463, D. Kent Halstead, U.S. Department of Health, Education and Welfare. (U.S. Government Printing Office, Washington, D.C.).

This chapter provides an overview of the items required in data collection and the usage of the data as related to institutional, State, and Federal planning. It is a must in any space management library. The numerous annotated bibliographies at the end of the chapter provide additional references to the subject.

1.2 Inventory

19:1.2/74

Higher Education Facilities Inventory and Classification Manual, Leonard C. Romney, 152 pp. (U.S. Government Printing Office, Washington, D.C.).

This document was designed primarily to assist colleges and universities in the classification of building-inventory data. The manual delineates a classification system that identifies building-area categories and classifies assignable space by room use and program. Detailed appendices cover building-data, collection forms, room-inventory forms, and space category codes and definitions. The manual serves not only as a basis for uniform reporting of facilities inventory data to State and Federal agencies, but also as a guide for establishing a data collection system within institutions.

1.3 Utilization

19:1.3/71

Inventory and Utilization Study for Public Higher Education, Fall 1969, Court Washburn, David Duxbury, William Haldeman and Mary MacDonald (California Coordinating Council for Higher Education, Sacramento).

Illustrative of the many outstanding State facilities surveys, this California study was designed to:

(1) determine current availability of higher education facilities,
(2) determine current efficiency of the use of these facilities
(3) evaluate existent and proposed utilization standards,
(4) relate utilization rates to operation costs and capital outlay, and
(5) refine capital outlay decisions through model simulation.

19:1.3/69

Theoretical Maximum Scheduling and Utilization of Classrooms, Harlan D. Bareither, 16 pp. (University of Illinois, Urbana).

This report outlines a procedure to determine the theoretical maximum scheduling and utilization possible at an institution using the existing course offerings, classrooms, and times when classes may be scheduled. Data for five institutions ranging in size from 1,000 to 30,000 were examined.

19:1.3/67

Indiana Facilities Utilization Survey for Colleges and Universities, Fall 1967, James F. Blakesley, Paul C. Bayless, W. Charles Sherwood, and Frederick H. Wolf, 272 pp. (Indiana Advisory Commission on Academic Facilities, Bloomington).

This volume is a superior utilization study of the physical facilities of Indiana colleges and universities. It contains space-inventory summaries for both residential and non-residential areas, with emphasis on the non-residential. Comparisons are made on a group basis by campus size, program emphasis, or source of support. Where appropriate, comparisons are made with facilities studies from other States. The depth of analysis and the clarity of presentation make this State utilization study a model in its field.

19:1.3/65

A Comprehensive University Scheduling System, V. A. Abell, James F. Blakesley, G. E. Morgan, W. Charles Sherwood, 10 pp. (Purdue University, Lafayette, Ind.).

This report illustrates the factors involved in preparing a university class schedule–student requests, staff availability, rooms available, etc., and describes the program that combines these factors to produce the most optimum schedule with respect to room utilization and staff assignments.

19:1.3/64

A Comparison of the Trimester and Four Quarter Calendars for Year-round Operation of Public Higher Education in California, John R. Richards and others, 43 pp. (California Coordinating Council for Higher Education, Sacramento).

This work is directed specifically to the question: "What type of calendar is preferable for year-round operation of higher education facilities?" The text suggests that the trimester arrangement is more advantageous with respect to providing for faculty sabbatical, accelerating graduation, and minimizing record-keeping. The 4-quarter calendar is seen to be more advantageous with respect to effective flexibility in faculty and/or student options, achieving a consistently balanced enrollment, and sustaining articulation with secondary schools and other institutions of higher education. Any differences in operational costs–excluding capital outlay–between the 4-quarter system and the trimester were judged not important enough to warrant rejection of the former.

1.4 Projection

19:1.4/71-1

Higher Education Facilities Planning and Management Manuals (7 vols.), Harold L. Dahnke, Dennis P. Jones, Thomas R. Mason, and Leonard C. Romney, 393 pp. (Western Interstate Commission for Higher Education, Boulder, Colo.).

These seven manuals in a looseleaf binder are intended to be used as handbooks from which institutional planners may select a methodology for evaluating the capacity of existing college and university facilities and for projecting future facilities requirements. The manuals are designed to inform users what data must be available before planning can begin; the procedures to follow in using the data for evaluative or projective purposes; and, in addition, the manuals give illustrative values of unit

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floor areas which users can employ as criteria in the absence of directly applicable values at their own institutions.

Manual One, which contains an overview of the complete set, includes an introductory discussion of the facilities planning cycle and an essay on the possible effect that changing instructional techniques may have on the facilities planning process. Manuals Two through Five describe the procedures for evaluating and projecting the requirements for various types of space: classroom and class laboratory facilities, office and research facilities, academic support facilities (library, audio-visual, exhibition), and general support facilities (athletic, recreational, residential, dining, and student health facilities). Manual Six describes the program planning and analysis procedures which are the basis for the facilities planning process. This manual also includes a proposal for systemwide or system-level evaluation of the output of institutional facilities planning systems. Manual Seven contains pertinent general reference material: a glossary, bibliography, index, and table of contents.

19:1.4/71-2

Space Factors and Space Utilization Values for Use in Meeting the Facility Needs of the Texas Colleges and Universities, James R. Woolf, 49 pp. (Coordinating Board, Texas College and University System, Austin).

This report identifies the space factors, recommends space utilization values, and outlines a reporting procedure for projection of physical facilities for Texas colleges and universities. The report also surveys the literature on the standards other States use in meeting facility needs.

19:1.4/68-1

Guidelines for Planning at Colleges and Universities, Volume 4, Physical Plant Planning Facilities Studies, Charles Pinnell and Michael Wacholder, 103 pp. (Coordinating Board, Texas College and University System, Austin).

This volume presents techniques for estimating an institution's facility requirements. Numerous formulas and specific numerical values provide the key to workable and meaningful procedures.

19:1.4/68-2

University Space Planning, Harlan D. Bareither and Jerry L. Schillinger, 153 pp. (University Microfilms International, Ann Arbor, Mich.).

The authors have written a basic reference for evaluating university space requirements, covering methodology, unit areas, and utilization rates. An analytical method to define, analyze, and project space requirements systematically is also included. The underlying factors and recommended values that can be altered by the user within the framework of a proposed "numeric method" are explicitly identified. Numerous charts, tables, and architectural drawings supplement the text. Also included is an extensive appendix illustrating the complete planning process for an academic building. This book will be particularly useful in cases in which institutions have not established a basis for projecting space requirements objectively.

19:1.4/68-3

Planning Guidelines for Construction of Facilities at the State-Supported Colleges and Universities in Colorado, Colorado Commission on Higher Education, 46 pp. (CCHE, Denver).

This pamphlet contains a tabular presentation of 17 building standards and utilization factors useful in planning higher education facilities; specifically, utilization standards, unit space allocation factors, various planning ratios, and optimum scheduling guides. Special planning criteria for classrooms, class laboratories, research laboratories, offices, libraries, and other specific room types are also reviewed.

19:1.4/66

Space and Utilization Standards, California Public Higher Education, Franklin G. Matsler, 78 pp. (California Coordinating Council for Higher Education, Sacramento).

A manual of classroom, laboratory, library, and office space standards, this work contains material obtained, in part, from an extensive 1963 analysis of the three segments of the California public higher education system: public junior colleges, State colleges, and the University of California. The standards proposed in this report include:

1) Standards for classrooms and seminar rooms,
2) Standards for laboratories categorized into upper and graduate division, lower division, and subject field area,
3) Office standards based on space for full-time instructional staff member,
4) Library facility standards for junior colleges.

This work also includes a summary of existing utilization rates for classrooms and laboratories in the three segments.

1.5 Statistical Information

19:1.5/76

Statewide Space Survey—A Survey of the Amount and Utilization of the Space Available for Higher Education in Illinois, (Fall Term 1975), State Board of Higher Education, 67 pp. (State Board of Higher Education, Springfield, Ill.).

This report illustrates some of the statistical information with regard to physical facilities that are used in State level planning. The information supplied in this report is usually sufficient for completing the general data requested in the Higher Education General Information Survey report on physical facilities.

19:1.5/74

Inventory of Physical Facilities in Institutions of Higher Education, Fall 1974, Richard J. Peterson, National Center for Education Statistics, 74 pp. (U.S. Government Printing Office, Washington, D.C.).

This publication summarizes the data obtained from the Higher Education General Information Survey on physical facilities. The data is reported by institutional control, level, and enrollment size.

19:1.5/69

Federal Support for Higher Education Construction, Current Programs and Future Needs, 290 pp. (U.S. Department of Health, Education, and Welfare, Office of Education, U.S. Government Printing Office, Washington, D.C.).

While this report is somewhat obsolete, it illustrates the use of statistical information obtained by Higher Education General Information Surveys to develop a plan of action for Federal funding.

2.0 SPECIFIC SPACE MANAGEMENT CONSIDERATIONS

2.1 Energy Conservation

19:2.1/78

The Economy of Energy Conservation in Educational Facilities, Educational Facilities Laboratories, 96 pp. (EFL, New York).

This book contains information for identifying and correcting sources of energy waste in existing buildings. It also offers guidelines for selecting electrical and mechanical equipment by what it will cost to operate in the long run instead of by the least initial cost. It stresses the importance of training operating and maintenance personnel to use new and sophisticated equipment in educational buildings. The book also has an appendix with a selected bibliography on energy conservation.

2.2 Access for Handicapped

19:2.2/78

Accessibility Standards Illustrated, Michael A. Jones, 217 pp. (Capital Development Board, Springfield, Ill.).

This reference gives the revised standards aimed at improving access to publicly used buildings in the State of Illinois for handicapped persons. The reference has been produced in illustrated format, complete with problem statements received from interviews with disabled people and from data gathered by unobtrusive observation of them using the physical environment.

19:2.2/77

Planning for Accessibility: A Guide to Developing and Implementing Campus Transition Plans, Margaret Milner, 86 pp. (Association of Physical Plant Administrators of Universities and Colleges, Washington, D.C.).

This manual has been prepared to assist college and university administrators in making their campus facilities accessible to physically handicapped students, faculty, and staff. The manual indicates the manner in which institutions may proceed to tailor a program that will respond to its own particular needs. In addition, the manual contains additional references for further study.

2.3 Obsolescence Studies

19:2.3/77

Physical, Functional, and Economic Analysis of Harker Hall at the University of Illinois, Urbana, Illinois, Office for Capital Programs, University of Illinois, 20 pp. (University of Illinois, Urbana).

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This report outlines procedures and measures used to evaluate a building constructed in 1878 to determine whether it should be rehabilitated or razed. The decision in this case was that no additional funds beyond the normal operation and maintenance cost and the protection of life and property be expended for the existing building or grounds, and a schedule be developed to demolish the facility and to provide replacement space as soon as possible.

19:2.3/76

Building Quality Evaluation Procedures Manual, Howard R. Boozer, 26 pp. (South Carolina Postsecondary Education Commission, Columbia, S.C.).

This manual sets forth a method for systematically inspecting building components and for assigning points to them based on comparison with components in new or satisfactorily remodeled facilities. The total point values of all components can be translated into a building condition category and will provide a basis for determining priorities for renovation.

19:2.3/70

Obsolescence Report, Home Economics Building, University of Wisconsin, Madison, Wisconsin, 14 pp. (Bureau of Capital Development, Madison, Wis.).

This report outlines the procedures followed to evaluate a 1912 building constructed for teaching home economics to determine whether it should be remodeled or razed. Recommendations in this study were that the building be remodeled to extend its useful life.

19:2.3/68

Guidelines for Planning in Colleges and Universities, Volume 4—Physical Plant Planning Facility Studies, Charles Pinnell and Michael Wacholder, pp. 65-81 (Coordinating Board, Texas College and University System, Austin).

In addition to presenting techniques for estimating institutional facility requirements, this volume provides information and procedures for making a qualitative analysis of existing facilities. The ultimate goal of the system was to classify the buildings in one of the four following categories: (1) satisfactory—no modification required during the planning period, (2) satisfactory—minor modifications required, (3) unsatisfactory—

major alterations and modifications required, or (4) unsatisfactory—should be demolished.

2.4 Building Costs, Life Costs, and Maintenance

19:2.4/77

Space Realignment, Renewal, and Replacement, Harlan D. Bareither, 9 pp. (Unpublished report at University of Illinois, Urbana/Champaign).

This report provides a framework for budgeting the necessary funds to prevent deterioration of physical facilities. The assumptions were made that a building can function indefinitely with proper maintenance, and that there would be no deterioration of the building's foundation, superstructure, and exterior skin, elements which normally constitute one-third of the total construction cost. Using the assumption that higher education institutional buildings undergo one complete remodeling every 50 years, and the equivalent amount of remodeling in the form of space realignment, renewal, and replacement, this report shows how the funds needed annually for this latter form of remodeling can be calculated.

19:2.4/75

Industrialized Forum. Vol. 6, 3-4, (University of Montreal, Canada).

This issue of the *Industrialized Forum* reports on life-cycle costing. It gives consideration of the long term economics as a systematic basis for building procurement and design, both in theory and practice. Various examples are examined in detail form from which experience may be gained and general recommendations developed.

19:2.4/72

Report of the Task Force—Building Costs, Task Force of the Council of Ontario Universities, 85 pp. (Council of Ontario Universities, Toronto, Canada).

This is the work of a Task Force established to study building costs, life costs, and other related matters. The report provides a comparison of the costs of building elements related to design requirements for selected university and non-university buildings in Ontario and introduces the theory and substance of life cost studies and their benefits.

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Student Characteristics and Development

Alexander W. Astin
assisted by Patricia McNamara

* * *

At all levels of higher education, the decisions of administrators and planners regarding policies, programs, and practices affect students. Far too many educational decisions appear to be made without reference to their probable and often predictable effects on student development. The literature reviewed here consists of research and descriptive studies that have examined student change and development during the undergraduate years. While some authors specifically discuss the implications of their findings for educational planning and policy and present recommendations, others do not. Nonetheless, informed planners should be familiar with these studies and their relevance to the planning function.

Although literature on the impact of college on students is voluminous, much of the research is limited in scope and suffers from methodological inadequacies. To facilitate access by educational planners and administrators to studies in this topic area, developmental studies of general interest and relevance have been selected and important data bases, analyses, and tabulations have been presented. References were selected for their focus on student change and development in college, particularly in the areas of aspiration and achievement.

Developmental Studies. The major studies of student development do not follow a pattern that permits classification by such factors as outcome criteria, student characteristics, or types of institutions. Many studies involve multiple outcome criteria (both cognitive and affective), diverse student populations, and a variety of institutional types. Major studies do vary, however, in terms of the investigator's orientation toward the *independent variables* (college environmental characteristics). Three major categories can be identified for classification purposes: (1) multi-institutional studies that examine the impact on students of institutional characteristics, such as size and control, (2) studies that focus on the impact of individual institutions (usually one or a limited number), and (3) general developmental studies that do not focus primarily on the comparative impact of institutions or institutional characteristics.

Descriptive Studies and Data Sources. Compendiums of normative data and analyses of descriptive student data are useful in defining student characteristics and in examining student change and development during college. The data sources section briefly describes important data bases that are available and can provide information relevant to the topic area.

Other important literature related to this topic area can be found under Topic 1: Admission/Articulation/Retention; Topic 7: Educational Opportunity; Topic 21: Student Financial Assistance; and Topic 22: Work and Education.

TOPIC ORGANIZATION

20: Student Characteristics and Development

- 1.0 Developmental Studies
  - 1.1 Impact of Institutional Characteristics
  - 1.2 Impact of Individual Institutions
  - 1.3 General Developmental Studies
- 2.0 Descriptive Studies
- 3.0 Data Sources

1.0 DEVELOPMENTAL STUDIES

1.1 Impact of Institutional Characteristics

20:1.1/78

"Patterns of College Experience: An Empirical Typology of Students and College Interaction," Carol E. Christian, 131 pp. (Unpublished Ph.D. dissertation, University of California, Los Angeles).

The general aim of this study was "to investigate different patterns of college experience and the educational outcomes associated with specific interactions between student types and their college environments." Additional related objectives were: (1) to develop an empirical typology of entering freshmen which could be used to study college impact; and (2) to test the applicability of "reference group" theory to the undergraduate campus social environment. The typology of freshmen, developed by factor analysis of 100 student characteristic variables for 51,700 entering college freshmen, identified 12 freshmen types. Longitudinal college impact analysis was conducted for five of the freshmen types: Business Leader, Socialite, Scholar, Hedonist, and Religious. Almost 5,000 students for whom 1966 freshmen and 1970 follow-up data were available qualified for membership in at least one of the five types. Multi-stage stepwise regression analysis was used to test the study's hypotheses.

Only partial support was obtained for the hypotheses that (a) reference group affiliations compatible with a student's type would be associated with increased satisfaction, persistence, and type maintenance and (b) reference group impact would be increased for students who experienced "success' as defined by the reference group. After examining the negative results, the author concluded that the student type measures are appropriate and the theoretical constructions are valid; the problem apparently resulted from insufficiently specific and possibly inappropriate reference group measures. Both theory and student typology are seen as useful tools for those concerned with studying and maximizing college impact on students.

20:1.1/77

Four Critical Years: Effects of College on Beliefs, Attitudes, and Knowledge, Alexander W. Astin, 293 pp. (Jossey-Bass, San Francisco).

This recent analysis of the impact of college on students is based on the first 10 years of an on-going national research project. Longitudinal data from 200,000 students and 300 institutions, representing all types of colleges and universities, has been weighted to approximate the results that would have been obtained if all first-time, full-time freshmen entering the nation's institutions of higher education had participated in the freshmen and follow-up surveys. Multiple regression techniques were used to examine the effects of the college experience on more than 80 different outcome measures of attitudes, values, aspirations, behavior patterns, persistence, achievement, competency, career development, and satisfaction. The impact of college characteristics (e.g., size, control, selectivity) and collegiate experiences on student outcome measures were assessed and, by comparing students in terms of the degree and intensity of their exposure to college, purely maturational changes were separated from those changes attributable to college experiences.

The study's findings are specifically related to current trends in higher education, such as the expansion of the public sector, the increase in institutional size, the proliferation of community colleges, open admissions, the de-emphasis on the residential experience, and the decreasing number of single-sex institutions. This analysis leads the author to suggest that many of these recent changes are detrimental to student development and raises questions of concern to educational planners, policymakers, and practitioners.

20:1.1/75-1

The Power of Protest: A National Study of Student and Faculty Disruptions with Implications for the Future. Alexander W. Astin, Helen S. Astin, Alan E. Bayer, Ann S. Bisconti, 208 pp. (Jossey-Bass, San Francisco).

This book was written after the campus unrest of the late 1960's and very early 1970's in the United States had subsided, but it is based on empirical data collected as part of a comprehensive and controversial 3-year study conducted in the midst of the period of intense unrest. The authors were thus able to relate their findings to present students and campus environments and to consider implications for possible future unrest. The analysis focuses on three issues: (a) the relationship between campus unrest and subsequent changes in institutional policy and/or programs; (b) the characteristics of students, faculty, and institutions associated with the occurrence of campus protest; and (c) the impact of protest on the attitudes and behavior of both participating and nonparticipating students.

The primary research methods employed in the study were multivariate analysis of longitudinal survey data and intensive case studies of 22 institutions; three case studies are presented in detail. The problems of studying a volatile social phenomenon during the time of its occurrence are also discussed.

The authors conclude that campus unrest is likely to persist as a symptom of a number of unresolved issues. The book seems most appropriate for planners and policymakers who wish to understand the links between past unrest and today's campus, the ways in which protest can retard or accentuate general college effects on student behavior and attitudes, and why an institution may be vulnerable to protest and how it might best respond.

20:1.1/75-2

Education, Occupation, and Earnings: Achievement in the Early Career, William H. Sewell and Robert M. Hauser, 237 pp. (Academic Press, New York).

This book attempts to chart the complex process by which a young man's social origins influence his capacities and achievement in educational, occupational, and economic spheres. Focusing on earnings as the end product of the achievement process, the authors seek to determine whether and how factors other than performance in an occupational role influence earnings and help explain the wide variation in earnings among members of a particular cohort. Data were collected through survey questionnaires from a large probability sample of Wisconsin high school seniors in 1957 and from a random subsample of this original population in 1964. Social Security earnings information for the period 1957-1967 were obtained for males and their parents. The analysis is based largely on a recursive structural equation model of achievement which links socioeconomic status and academic ability with educational achievements and occupational attainments by means of social psychological variables.

A number of critical relationships are explored: the influence of socioeconomic origins on achievements; the role of social psychological factors mediating between socioeconomic origins and achievements; the effects of the type of college on occupation and earnings; and the circumstances under which ability actually affects earnings. These analyses, which explore the cause and consequences of higher education, highlight the factorial complexity of the achievement process. Although the study utilizes male subjects from a single State who were high school seniors in 1957, the authors believe that the basic process of socioeconomic achievement found operating for this sample probably can be generalized to apply to the nation as a whole.

20:1.1/74

Commuting Versus Resident Students, Arthur W. Chickering, 150 pp. (Jossey-Bass, San Francisco).

Interest in the impact of college on student learning and development, the problem of funding, construction, and maintaining college residences, and the role of the residential experience, led the author to examine differences between commuting and resident students in entering characteristics, college experiences and educational outcomes. A context for the research findings is provided by a discussion of prior research and of institutional responses to changes in society and the student population. Primary and secondary analyses of national data on entering freshmen and 1 and 4 year follow-up studies of this population collected by the American Council on Education constitute the book's research base. After weighting to provide the best currently available national figures, the data were submitted to multiple regression analysis.

The findings of the study are essentially two-fold: that there are significant benefits accrued by students who went away from home to college, and able and affluent students were more likely to go away to college than were less able and affluent students, only widening the initial gap between the two groups. The conclusion is that the concept of equal access to higher education needs to be expanded to include access to residential facilities during undergraduate education.

The author identifies three major groups of new students: those from lower socioeconomic levels with poor academic records, students from the inner-city and adults pursuing some kind of further education. The new students were more likely to be commuters than residential students. The resident student tended to become more fully involved with the academic program and the associated intellectual and social activities of an institutional environment than did commuting students, thereby developing relationships which reinforced educational and emotional growth.

The author relates his findings to basic educational and developmental principles and makes recommendations designed to strengthen the educational experiences of all students, primarily commuters. These recommendations include: a sound match between the educational needs and purposes of students, learning resources, and educational influences; better information about higher education systems and individual institutions; more careful instructional planning related to the abilities and needs of students; and a wide range of available learning resources. These recommendations do not require large capital expenditures and could be implemented by existing institutions as well as by those developing new approaches to higher education. Their intent is to enable schools to offer the best possible education.

20:1.1/71

Predicting Academic Performance in College. Alexander W. Astin. 299 pp. (Free Press, New York).

This book approaches the subject of academic achievement and attrition during the first year of college from a very practical perspective. The text examines (1) how a student's academic performance in college and chances of dropping out can be predicted from his or her academic and personal characteristics as a high school senior, and (2) how characteristics of the college itself affect the student's academic success and survival. A series of tables provide information that would enable a student to predict his or her expected freshman grade point average, chances (in 100) of obtaining a "B" or better average, and chances (in 100) of dropping out of school before the second year of college at each of 2,300 different colleges.

Information provided by students who completed survey questionnaires as freshmen in 1961, 1965, and 1966 and follow-up data obtained one year later provided the basis for three major types of large-scale correlational and regression analyses: (1) prediction of freshmen grade point average (GPA) and dropping out from various student characteristics; (2) the search for "moderator" variables to improve prediction within individual colleges; and (3) the development of separate prediction formulas for colleges at different levels of selectivity. Technical details of the sample, analyses, and construction and interpretation of the tables are provided in the appendices.

20:1.1/69

The Educational and Vocational Development of College Students, Alexander W. Astin and Robert J. Panos, 211 pp. (American Council on Education, Washington, D.C.).

This study was undertaken to assess the significance of institutional diversity in the production of skilled labor by comparing the effects of different college environments on undergraduates' educational aspirations and career plans. More specifically, it sought to identify institutional characteristics and educational practices that affect students' chances of completing college, attending graduate school, and pursuing a career in a particular field. A sample of 60,505 students attending a stratified national sample of 246 four-year colleges and universities was selected for examination; approximately 36,000 students responded to a follow-up survey. Student input data (Fall 1961 information from entering freshmen); student output data (Summer 1965 follow-up data); and college environmental data were used to assess environmental effects on student development.

The book presents normative descriptive data on the class of 1965; an analysis of the personal and environmental factors that influence students' persistence in college, undergraduate major field, educational achievement, and educational aspirations and career choice during the undergraduate years; and a summary of the findings by institutional type or environment characteristic. The major policy and research implications of the study's findings are summarized in the final chapter.

20:1.1/68

"Undergraduate Achievement and Institutional 'Excellence'," Alexander W. Astin, *Science*, Vol. 161, pp. 661-668.

The principal purpose of this study was to empirically test the effects of certain traditional indices of institutional excellence on the cognitive development of undergraduates. Two hypotheses were tested: (1) the academic excellence of the undergraduate institution—as defined by the ability of the student body, the degree of academic competitiveness in the college environment, and the level of the institution's financial resources—has a positive effect on the undergraduate student's intellectual achievement; and (2) the extent of the positive effect on intellectual achievement is proportional to the student's academic ability. The research sample consisted of 669 students at 38 four-year colleges for whom longitudinal data were available. The study utilized 103 student input measures and 69 institutional environment measures, including 8 measures of institutional quality; student scores on the Graduate Record Examination (GRE) area tests in their senior year, 1965, were the output measures. A 3-stage, stepwise, linear regression analysis, which adjusted for differences in the characteristics of students entering different institutions, was used to test the study's hypotheses.

The results of this analysis failed to confirm either hypothesis. Additional analysis indicated that differences in student achievement during the senior year were much more dependent on variations in student input and field of study (major) than upon the characteristics of the undergraduate college attended. These results suggest that institutions seeking to enhance student cognitive development should focus their efforts on the curriculum rather than on upgrading such traditional indices of institutional quality as the number of books in the library or the proportion of faculty holding a Ph.D.

1.2 Impact of Individual Institutions

20:1.2/73

"Personality Development and the College Experience," Arthur W. Chickering and John McCormick, *Research in Higher Education*, Vol. 1, pp. 43-70.

This study examined the personality development of undergraduate students at 13 small colleges. Data were collected from 168 students in their freshman and senior year. The primary research instrument was the Omnibus Personality Inventory (OPI). Patterns of change for the total population and for subgroups of students were studied.

Despite major differences among institutions and students, the direction of net change, as indicated by mean OPI score changes, was basically the same in several diverse colleges. Senior scale scores indicated increases in autonomy, awareness, integration, aesthetic sensitivity, tolerance, liberalness in religious views, and less concern with material possessions. However, students did not become more similar; diversity increased for the total group and, frequently, within each college.

Change patterns of subgroups of students enrolled at different colleges with similar freshman OPI scores also were examined. Different patterns of change were found that were systematically related to such factors as college climate, student characteristics, teaching practices and study activities, and student-faculty relationships. On the basis of these results, the author concludes that institutional differences do make a difference to student development; differential change occurs as a function of the fit between student and institution. A close "fit" leads to consistent change among diverse colleges, while a "misfit" causes changes to occur which are strongly associated with varied college characteristics and educational practices.

20:1.2/72

Students and Colleges: Interaction and Change, Burton R. Clark, Paul Heist, T. R. McConnell, Martin A. Trow, George Yonge, 327 pp. (Center for Research and Development in Higher Education, University of California, Berkeley).

This book reports the findings of an intensive longitudinal study of differential change in student characteristics at eight colleges. Conducted in the late 1950's and early 1960's, the study was designed to answer a number of questions: (1) Do students' personality characteristics, educational and vocational values and aspirations, and religious, political and civic attitudes change during college and in what directions? (2) Do students in dissimilar institutions show differential change in these characteristics? and (3) If these changes can, to some extent, be attributed to college influence, what kinds of effects occurred and in what ways might the institution be exerting an effect on students? Student input characteristics and college environment characteristics were assessed and considered in regard to the outcome measures.

The authors find support for the three major forms of college impact identified by Feldman and Newcomb: anchoring (maintenance or strengthening of initial attitudes); accentuation (an increase or heightening of certain initial student characteristics); and conversion (transformation of a student's initial values, dispositions, and attitudes). The authors discuss the conditions which influence the type and extent of impact that a college or university has on its students.

20:1.2/69-1

Education and Identity, Arthur W. Chickering, 367 pp. (Jossey-Bass, San Francisco).

The fundamental assumption of this book "is that colleges and universities will be educationally effective only if they reach students 'where they live,' only if they connect significantly with those concerns of central importance to their students" (p. 3). A conceptual framework, which was designed to move research findings closer to application and action, was developed from earlier research and from data from the Project on Student Development, a 5-year study begun in 1965 which examined institutional characteristics, student characteristics, attrition, and student development in 13 small colleges.

Seven vectors of development are described: (1) developing competence; (2) managing emotions; (3) developing autonomy; (4) establishing identity; (5) freeing interpersonal relationships; (6) clarifying purposes; and (7) developing integrity. The author contends that colleges can accelerate or retard individual development along each phase and identifies six major environmental influences on student development: (1) clarity of the institution's objectives and the internal consistency between program and objectives; (2) institutional size; (3) curriculum, teaching, and evaluation; (4) residence hall arrangements; (5) faculty and administration; and (6) friends, groups, and student culture. Hypotheses as to how each of these influences can affect student development are posed and discussed. The author believes that, by systematically modifying environmental conditions, institutions can enhance student development. Specific suggestions for action, which are based on existing knowledge, should be of particular interest to educational planners and policymakers.

20:1.2/69-2

No Time for Youth: Growth and Constraints in College Students, Joseph Katz and Associates, 463 pp. (Jossey-Bass, San Francisco).

This volume, which is based on intensive study of Berkeley and Stanford 1961 freshmen over a 4-year period, focuses on the role of colleges in furthering individual development. Data collected from several thousand freshmen and from over half of these students as seniors is supplemented by case studies of a randomly selected group of 200 students interviewed at least twice a year throughout the course of the study. Although the study examines students at only two institutions, the authors contend that it focuses on what is universal in the development of college students.

The text has four major divisions: Part I describes how students change during the college years; Part II identifies groups of students by their attitudes toward the curriculum and examines the process of career choice, as well as the interaction between curriculum and career decisions; Part III focuses on student life outside the classroom and studies specific personality types and kinds of behavior; Part IV presents recommendations for a new type of undergraduate education that the authors believe would better develop students' potentialities.

The authors contend that all educational planning must start from a recognition of student diversity in ability, interests, purposes, learning styles, backgrounds, and personalities. Recommendations for changing the structure, focus, and timing of education, the college environment, the composition and role of the faculty, and the role of the student are all intended to shift the primary focus of undergraduate education from the course to the student.

1.3 General Developmental Studies

20:1.3/77

Investment in Learning: The Individual and Social Value of American Higher Education, Howard R. Bowen, 507 pp. (Jossey-Bass, San Francisco).

The author, an economist who specializes in the economics of higher education, addresses the question: Is American higher education worth what it costs? The primary objective of this volume is to identify and evaluate the overall outcomes of higher education, to determine within the limitations of existing data whether these outcomes as a whole are worth the cost, and to point out the broad implications of the findings for higher education policy.

An extensive review of the literature led the author to develop a catalogue of widely accepted goals of higher education. This catalogue, which includes both individual and societal goals, provides a taxonomy for studying the outcomes of higher education. Drawing upon existing research literature, the author attempts to determine whether and to what extent each goal is achieved. Part II of the book examines the impacts of higher education on its students as individuals. Evidence of growth and development along each of 23 dimensions, including cognitive, affective, and practical competencies, is considered; the impact of higher education on students viewed as "whole persons" is explored; and the range of differences among institutions in their impact on students is assessed. Part III examines the direct and indirect effects of higher education on society.

Although the evidence is scattered and not always consistent, considered as a whole, it strongly suggests that higher education has significant positive effects on both individuals and society. In Part IV, the author concludes that the total returns from higher education in all its aspects exceed the cost by several times. He also offers suggestions concerning the future of American higher education.

20:1.3/74

"Varieties of Accomplishment After College: Perspectives on the Meaning of Academic Talent," Leo A. Munday and Jeanne C. Davis, 21 pp. *ACT Research Report 62* (Research and Development Division, American College Testing Program, Iowa City).

The relationship of high school nonacademic accomplishments to comparable nonacademic adult accomplishments was the focus of this study. Young adults who had completed the American College Testing (ACT) Assessment in 1964-1965 as high school seniors and who had attended one of three selected universities were sent an alumni survey six years later. The research questionnaires contained six 8-item scales which corresponded to the areas of nonacademic accomplishment tapped in the original Assessment. The scales reflected cultural and citizenship goals which a college would presumably espouse for its students.

Just over 2,000 of the approximately 5,000 deliverable questionnaires were returned. Response rates by institution were 19 percent, 42 percent, 56 percent. Responses were collated with earlier ACT data on a student-by-student basis and correlations between high school indices of talent (test scores, grades, and nonacademic accomplishments) and adult accomplishments were obtained separately by sex, institution, and graduate status. The scales, although unrelated to academic talent (including college grades), were related to comparable high school accomplishments.

Despite its sample size and response rate limitations, the study indicates the pitfalls of placing too much reliance on traditional indicators of academic talent. The authors urge educators to conceptualize ability and talent more broadly in the admissions process and to provide students with opportunities to develop nonacademic talents during the college years.

20:1.3/69

The Impact of College on Students. Vol I: **An Analysis of Four Decades of Research.** Vol. II: **Summary Tables.** Kenneth A. Feldman and Theodore M. Newcomb, 474 pp. and 169 pp., respectively (Jossey-Bass, San Francisco).

This two-volume work is a landmark in the literature on college impact. The authors critically reviewed almost 1,500 published and unpublished studies written between the mid-1920's and the mid-1960's. Their search was guided by the question: "Under what conditions have what kinds of students changed in what specific ways?" The empirical knowledge and theoretical propositions about the effects of college on students are integrated, summarized, presented, and evaluated in the text (Volume I) and in capsule tabular summaries of selected studies (Volume II). On the basis of their review and analysis, the authors conclude: "There are conditions under which colleges have had (and, we assume, will continue to have) impacts upon their students, and not least upon students' values."

The evidence which supports this conclusion is organized and presented in chapters which address key questions about the process of change during the undergraduate years and the influences which affect the type and extent of change. Methodological issues and problems of concern to those designing and interpreting research studies dealing with this complex topic are identified and discussed. Because data bearing on all four years of the undergraduate experience are considered, the authors can assess the nature, extent, and timing of college impact on students.

20:1.3/68

Beyond High School. James W. Trent and Leland Medsker. 333 pp. (Jossey-Bass, San Francisco).

This study of 10,000 young adults in 16 communities during the four years following their graduation from high school in 1959 is especially important because of the size of the sample, the longitudinal design, and the comparisons drawn between college attenders and nonattenders. Designed to investigate the personal and vocational development of high school graduates and to collect information about their patterns of college attendance and employment, the study examines the impacts of college and employment on values and attitudes.

The communities were roughly representative of the United States except for the northeast (too many private institutions) and the southeast (racially atypical). These areas were not included, according to the authors, because they ". . . would so affect research findings as to distort the overall picture of the relationship between the availability of the various types of colleges and the rate of college attendance."

Beyond High School is a landmark in both retention and demographic research; the social and psychological determinants of persistence and the process of student growth and maturation as well as demographic information on admissions, transfer, and retention patterns are examined. Although the findings suggest that college fosters or at least facilitates the growth of autonomy and intellectual disposition among attenders, the authors concede that this growth may be the result of a pre-disposition to develop in this way already inculcated in those who choose to continue their education after high school. Nor can the authors determine the durability of changes brought about by higher education. Nonetheless, policymakers and planners concerned with the full utilization of human talent will find that this book provides valuable information about the factors which lead to educational attrition and the impact of college on individual development.

2.0 DESCRIPTIVE STUDIES

20:2.0/75

The Enduring Effects of Education, Herbert H. Hyman, Charles R. Wright, and John S. Reed, 313 pp. (University of Chicago Press, Chicago).

This study examines the effects of varying amounts of education on adult's knowledge and receptivity to knowledge. The responses of large and representative samples of the adult noninstitutionalized population were studied through secondary analysis of some 250 discrete items of information requested in 54 national surveys conducted between 1949 and 1971. Surveys which clustered around four points in time, and four age groups were selected for examination. This research design allowed the authors to examine the response patterns of four age cohorts who reached a common age at different historical times; to compare respondents with a given level of education across four age groups at the same point in time; and to track the same birth cohort at different life stages. All nonwhite respondents were excluded from the analyses. Separate analyses controlling for respondents' sex, religion, class origins, ethnicity, rural origins and current socioeconomic status were conducted in order to determine the influence of these variables on the outcome measures.

Although the consistency and quality of items available for secondary analysis pose limitations, the creative approach to studying the long-range cognitive benefits of education used in this study presents interesting possibilities for future research. On the basis of their research findings, the authors conclude that "education produces large, pervasive, and enduring effects on knowledge and receptivity to knowledge."

20:2.0/74-1

"Five and Ten Years After College Entry," *ACE Research Reports* 9 (1). Elaine H. El-Khawas and Ann S. Bisconti. 156 pp. (American Council on Education, Washington, D.C.).

This report presents a detailed descriptive account of the status of two cohorts, 1961 and 1966 college freshmen, at the time of a 1971 longitudinal follow-up study. The major objective of the study was to examine the educational and career development of these two cohorts following the undergraduate years. Particular attention was given to the academic progress and financial arrangements of those respondents who enrolled in graduate or professional education.

Subsamples of approximately 60,000 from each of the two freshmen cohorts were selected for follow-up. Responses from about 25,000 members of each cohort were weighted to produce tabulations that approximate population distribution parameters. Frequency distributions and cross-tabulations by cohort, sex, race, bachelor's degree status (attained or not attained), plans for advanced study (yes or no), undergraduate and graduate fields of study, and advanced degree status are presented in 155 tables.

The authors present an overview of the findings on current educational status, achievement, and plans; patterns of activity over time; current employment and unemployment; and, for all respondents who went on to graduate or professional school, advanced study progress, patterns, and experiences, including financing sources and attitudes regarding indebtedness.

By examining these descriptive data using the normative profiles of the respondents as college freshmen, it is possible to identify changes in student attitudes, behaviors, and plans and to isolate some of the determinants of such changes.

20:2.0/74-2

The Demise of Diversity: A Comparative Profile of Eight Types of Institutions. C. Robert Pace. 131 pp. (McGraw-Hill, New York).

This study, designed to examine some of the dimensions of diversity that characterize the system of higher education, is based on survey questionnaire data collected in 1969 from alumni of 1950 and current college juniors at eight distinct types of institutions. The patterns of association between college experience, personal background, type of institution attended, and various student and alumni activities, viewpoints, and characteristics are explored. Comparisons are drawn between the kinds of college experiences and the benefits attributed to college by students and alumni at different types of institutions. The features which distinguish each type of institution for its 1950 alumni and its current students are discussed and related to various outcome measures.

The findings of this investigation lead its author to conclude:

> As higher education has developed in this country, particularly over the last 20 years, the proportion of students who have a full and rich campus experience has gradually been reduced. . . . The consequence of this trend is that fewer students attain benefits related to personal and social development, to liberal interests and attitudes, and to involvement in civic and cultural affairs. (p. 130)

20:2.0/73-1

The Graduates: A Report on the Characteristics and Plans of College Seniors. Leonard L. Baird, Mary Jo Clark, and Rodney T. Hartnett. 210 pp. (Educational Testing Service, Princeton, New Jersey).

This report uses data from a national survey of college seniors conducted in 1971 to study the development of career choices. Although the major research focus was postgraduate educational plans, extensive information and attitudinal data on students' backgrounds, self-concepts, undergraduate experiences, and career plans provides a comprehensive portrait of these seniors.

The sample of approximately 21,000 students drawn from 94 four-year colleges is, in the authors' estimation, reasonably representative of seniors who are oriented to graduate and professional education, but perhaps somewhat less representative of those not planning advanced education. For much of the analysis, respondents were classified according to their plans for the upcoming fall: work, marriage, military service, or advanced study in one of six broad fields.

After reviewing the historical context in which these students grew up, the text describes the seniors and examines their undergraduate experiences, particularly those likely to influence career choices; their perceptions of careers and graduate and professional schools, and their career decisions. Individual chapters compare the plans of men and women respondents and examine the responses of some 1,000 black participants. The last two chapters explore (1) the correlates of grades, Graduate Record Examination, Law School Admission Test, and Medical College Admission Test Science scores in an attempt to learn to what extent these measures relate to students' social class, ethnicity, self-concepts, plans, and other characteristics, and (2) the correlates of career choice and offers of financial aid. Although the authors had expected to find that the 1971 senior was a new kind of student – more idealistic and socially effective than his or her predecessors–the evidence suggests no such clear-cut pattern of differences.

20:2.0/73-2

"Four Years After College Entry," *ACE Research Reports 8* (1), Alan E. Bayer, Jeannie T. Royer, and Richard M. Webb, 45 pp. (American Council on Education, Washington, D.C.).

This normative report provides extensive descriptive data on how young adults change after entering college. It is based on the 1971 responses of individuals initially surveyed as 1967 freshmen. The 34,346 follow-up responses were adjusted using a complex weighting procedure to represent the total number of first-time, full-time freshmen who entered higher education in 1967. An overview of the findings on degree attainment, educational plans and aspirations, educational persistence, academic achievement, educational financial support, field of study, life objectives, and attitudes on social and campus issues is presented in the text. The 1971 survey responses are included in tabular form by sex (men, women, both sexes) and type of institution in which the student originally enrolled (2-year, 4-year, university, all institutions combined). These data, used in conjunction with the national normative data based on the 1967 freshmen responses, provide valuable insights into how young adults change after entering college.

20:2.0/70-1

Education and Employment: The Early Careers of College Graduates, Laure M. Sharp, 162 pp. (Johns Hopkins Press, Baltimore).

The experiences of an alumni cohort during the five years following their 1958 graduation provide the basis for this examination of the effects of education on work roles. One of the first studies to explore the linkages between education and work, it was designed to increase understanding of the dynamics of career outcomes, patterns of study and employment, familial influence on study and job decisions, the mobility of young college graduates, the differential impacts of different types of institutions, comparative career patterns of men and women, and the role of military service in the careers of college men.

Approximately 41,500 recipients of bachelor's, master's, and professional degrees in 1958 from some 1,200 four-year institutions responded to a 1960 survey. A stratified subsample of these respondents was surveyed again in 1963 and over 19,000 (83 percent) returned questionnaires. This book summarizes the findings and interpretations derived from these studies.

The text traces the early careers of the respondents by focusing on (a) how the undergraduate major influences the transition to graduate study and employment; (b) the role of military service in the careers of young men; and (c) the role of the undergraduate institution vis-à-vis graduate study, occupational outcomes, and marital status. Tables in the text and appendices present frequency distributions and the results of cross-tabulation analyses for a number of key variables; many of these findings are presented separately for men and women. As a result of the women's movement and of changes in the labor market, the draft laws, and higher education in general, the environment in which today's college graduates study and begin their careers is very different from that of the graduates of 1958; however, the methodology used in this landmark study is applicable to more relevant samples.

20:2.0/70-2

Recent Alumni and Higher Education, Joe L. Spaeth and Andrew M. Greeley, 199 pp. (McGraw-Hill Book Co., New York).

Insights into how well and how poorly colleges have served their alumni and how they may best serve them in the future is provided by this report commissioned by the Carnegie Commission on Higher Education. In 1968 the views, attitudes, and experiences of 6,005 1961 alumni who had returned four previous questionnaires were sought; 81 percent responded. The general strategy of analysis used in the study was to correlate indices of satisfaction with college with (1) attributes of the college (e.g., size, quality, control, and type); (2) experiences of the alumni (e.g., years in graduate school, occupational choice, and present family income); and (3) personal background variables. Path analysis was used to examine the transition from high school to college and the role of higher education in occupational attainment (but for men only).

The study found that the strongest predictor of alumni satisfaction seems to be the college's perceived contribution to value formation. In the final section, the authors consider the meaning and implications of this and other findings and discuss what policies and attitudes might be appropriate responses to the data. They conclude that, if they were to make one recommendation, it would be that education concern itself not with changing values but with the analysis and development of values.

3.0 DATA SOURCES

20:3.0/A-1

The American Freshman: National Norms for Fall 1977, Alexander W. Astin, Margo R. King, and Gerald T. Richardson, 157 pp. (Graduate School of Education, University of California, Los Angeles).

This 12th annual report of national normative data is based on the responses of 198,641 freshmen entering 374 institutions in Fall 1977. The summary data, representative of all first-time full-time freshmen entering college that fall, are presented separately by sex and for 38 different groups of institutions. Major stratifying factors are institutional race (predominantly white versus predominantly black), type (2-year, 4-year, university), control (public, private-nonsectarian, Roman Catholic, Protestant), and the "selectivity level" of the institution, an estimate of the average academic ability of its entering class. The appendices include institutional participation records, a copy of the 1977 Student Information Form, a discussion of the data's precision, and a sample of the individual reports received by participating institutions.

20:3.0/S-1

Cooperative Institutional Research Program, Graduate School of Education, University of California, Los Angeles.

The Cooperative Institutional Research Program (CIRP), initiated in 1966, collects data nationally each fall on the characteristics of students entering college as first-time full-time freshmen. This freshmen survey data is weighted to provide a normative picture of the college freshmen population. The principal purpose of CIRP is to determine the effects of college on students. In addition to providing normative data on each fall's entering freshmen (see 20:3.0/A-1) which can be used to examine trends over time, the 200 items of initial input data on individual students can be used for longitudinal follow-up research.

The survey instrument, the Student Information Form (SIF), is designed to elicit a wide range of biographic and demographic data, as well as data on student's high school background and activities, career plans, educational aspirations, financial arrangements, and current attitudes. It contains both standard items which are administered annually and new items which permit a more thorough coverage of student characteristics and reflect the changing concerns of the data users.

From 1966 to 1970, approximately 15 percent of the higher education institutions were selected by stratified sampling procedures and were invited to participate. Since 1971, all institutions with an entering freshman class that respond to the Higher Education General Information Survey (HEGIS) have been invited to participate. In Fall 1974 and 1975, samples of proprietary institutions also took part in the survey.

Tapes of freshmen data for all surveys conducted since 1966 are available; each tape includes the individual responses of approximately 300,000 students. Ten longitudinal files on five freshman cohorts are also available; longitudinal sample sizes range from approximately 5,000 to 56,000 respondents. The follow-up surveys were conducted from one to ten years after the freshmen data were collected.

20:3.0/S-2

Higher Education General Information Survey (HEGIS), National Center for Education Statistics, U.S. Department of Health, Education, and Welfare, Washington, D.C.

Extensive data are collected each fall from all 2- and 4-year public and nonpublic institutions of higher education through the Higher Education General Information Survey. Data on Opening Fall Enrollments and Earned Degrees Conferred, collected annually, are available on tape from Fall 1969. Since 1972, the sample universe has been redefined to include all institutions and their branch campuses.

Opening Fall Enrollment data are collected to provide a national count of the number of students in higher education, based on comprehensive coverage of institutions and categories of students. Full-time, part-time, and full-time-equivalent enrollment data are available, broken down by sex, for first-time, undergraduate, graduate, unclassified, and first-professional-degree students.

Data on Earned Degrees Conferred by higher education institutions are available on first professional degrees in selected fields; bachelor's, master's, and doctor's degrees conferred in selected disciplines; and degrees and awards based on less than four years of work beyond high school.

These data are available in published tabulations and on tape.

20:3.0/S-3

Higher Education Research Institute (HERI) Studies of the Impact of Student Financial Aid Programs (SISFAP): Study A. (HERI, Los Angeles, Calif.).

These longitudinal data files, developed as part of a major national study of the impact of financial aid programs on students' decision to attend college and their college choice, include longitudinal measures of student and college characteristics at three points in time: the beginning of the eleventh grade, midway through the twelfth grade, and at college entry. Four major surveys were used to obtain data on student characteristics: the Preliminary Scholastic Aptitude Test (PSAT) administered in October 1973; the Scholastic Aptitude Test (SAT) and the American College Testing Program (ACT) for Fall-Winter 1974-1975; and the Cooperative Institutional Research Program (CIRP) for Fall 1975. In completing these surveys, students could indicate up to 12 possible college choices: two in the eleventh grade, six in the twelfth grade, and four as entering college freshmen. College choices at each point in time were described by data derived primarily from Higher Education General Information Survey (HEGIS), which were merged on each student's record. Measures of the local higher education environment, that is, the type and number of colleges located near the student's home address, were also developed from HEGIS data and merged on each student's record. Twenty measures of the financial aid characteristics of each student's home State were included in each individual record.

Three longitudinal files are available: (1) an eleventh-twelfth grade file which has an unweighted sample size of approximately 724,000; (2) a twelfth grade-entering freshman file with an unweighted sample size of about 175,000; and (3) an eleventh grade- twelfth grade-entering freshman file with an unweighted sample size of approximately 115,000.

20:3.0/S-4

National Longitudinal Study (NLS) of the High School Class of 1972, National Center for Education Statistics, U.S. Department of Health, Education, and Welfare, Washington, D.C.

This on-going, longitudinal project focuses on the educational, vocational, and personal development of high school graduates, and the personal, familial, social, institutional, and cultural factors that contribute directly or indirectly to that development. The general purpose of the National Longitudinal Study (NLS) is to establish a factual basis for verifying and refining Federal policy concerned with maximizing individual access to educational and vocational opportunity, improving the general educational system, and assisting young people to assume a productive and satisfying adult role in American society. The project was also designed to extend scientific knowledge of human development during the period of transition from high school to adult careers.

Base-year data were collected in 1972 from a national probability sample of approximately 18,000 high school seniors at over 1,000 public, private, and church-affiliated high schools. Students in low-income or high minority group population areas, however, were oversampled. The base-year data include information on students' personal-family background, education and work experiences, postsecondary plans, aspirations, and attitudes; test results of verbal and nonverbal ability; and items from the students' high school records. In follow-up surveys, conducted in 1973, 1974, and 1976, the sample was augmented by almost 5,000 additional students from sample schools that were unable to participate in the base-year survey; response rates have been exceptionally high. The follow-up data include information on respondents' current status, education, work, and career plans, aspirations, and attitudes. A fourth follow-up is scheduled for 1979.

Base-year and follow-up survey data have been merged and are available for use.

20:3.0/S-4

National Longitudinal Study of the High School Class of 1972: Review and Annotation of Study Reports, Samuel S. Peng, Cecille E. Stafford, and Robin J. Talbert, 78 pp. (Center for Educational Research and Evaluation, Research Triangle Park, N.C.).

This report provides a concise introduction to the National Longitudinal Study (NLS). Its primary purpose was to establish an inventory of studies that have used the NLS data base and to summarize their major findings. It includes an overview of the NLS project, a description of the data base, a review and summary of study reports, and an annotated bibliography. A list of data file users is included in the appendix.

20:3.0/S-5

National Opinion Research Center (NORC) June 1961 Graduating Class Study, (NORC, University of Chicago, Illinois).

The objective of this longitudinal study of the June 1961 college graduating class was to examine its educational and career preferences, attainments, and satisfactions. A 2-stage probability sample was drawn from the universe of all college students who completed requirements for the baccalaureate degree during Spring 1961 and received their degree at the end of the term from an eligible institution of higher education: (1) 135 schools were selected from 1,039 eligible institutions, and (2) a sample of each institution's prospective graduates was identified. Four waves of questionnaires were administered to 41,000 college seniors in all fields: 1961 (84 percent response rate), 1962 (76 percent), 1963 (71 percent), and 1964 (60 percent). A fifth wave, administered in 1968 using a 6,000 subsample, yielded an 81 percent response rate.

Significant variables for which data were collected include: career preferences, college experiences, job satisfactions, occupational attainment, age, sex, family background, race, self-image, the role of women in society, and future employment.

Two data sets are available on tape. One is for the first four waves (1961-1964) only and has an unweighted sample size of 41,116. The second includes data from all five waves and has an unweighted sample size of 4,868. Extracts of the data for the entire sample or for any subgroup can also be provided. Bibliographies of publications based on this research data are available from the National Opinion Research Center.

20:3.0/S-6

National Scholarship Service and Fund for Negro Students (NSSFNS, New York).

From 1970 through 1974, National Scholarship Service and Fund for Negro Students collected data on minority and low-income high school seniors as part of a program which provided these students with computerized college referral services. Information obtained from all program applicants provided the data base for yearly descriptive profiles of a national cross-section of minority and low-income students. Each year approximately 40,000 seniors attending about 7,000 high schools provided information on their demographic characteristics, high school academic and nonacademic experiences, and educational and occupational aspirations, attitudes, and values.

Published research reports are available for the 1970 through 1973 applicant populations.

20:3.0/S-7

Project TALENT, American Institutes for Research (AIR, Palo Alto, Calif.).

In 1960, Project TALENT surveyed ninth through twelfth grade students at a five percent stratified random sample of the nation's high schools. Base-year information was collected on students' abilities, socioeconomic status, high school curriculum, and education and occupational interests and expectations. Each of the four grade cohorts of students was followed up one, five, and eleven years after high school graduation. An 18- or 20-year follow-up is scheduled to begin in the near future. Follow-up survey questionnaire responses provide data on the educational, occupational, and personal experiences of the sample. To ensure the representativeness of follow-up respondents, a special sample of 10,000 students (2,500 per grade cohort) was selected for intensive follow-up effort; about an 80 percent response rate was obtained for this sample. Based on the special sample responses, weights were developed to make the follow-up data representative of the initial sample.

These data are available in published tabulations and provide the basis for research reports. A comprehensive, updated annotated bibliography is currently being developed by the American Institutes for Research (AIR) staff. Data on the 400,000 students in the master file can be obtained by requesting (1) a special analysis which is conducted at AIR (the data user receives a computer printout of the analysis results); (2) work tapes which are created at AIR to the data user's sample and variable specifications; and (3) public use files which include complete 1960 and 11-year follow-up data on a representative set of 1,000 cases from each grade cohort, and 1- and 5-year follow-up data, as available, for these respondents. The *Project TALENT Data Bank Handbook* (AIR, Palo Alto, California, 1977) provides information on the study, its design, sample, available variables, analysis considerations, and access to the data.

See also: 4:1.2/A for the general annotation of this series. October Supplement, Current Population Survey (CPS), (U.S. Bureau of the Census, Washington, D.C.).

The October Supplement of the Current Population Survey (CPS) is designed to collect information annually on the number of persons three years old and over in the national population enrolled in school. Data are collected by interview with a stratified national sample of households. Variables for which data are available include full- and part-time enrollment; control and type of school; family and personal characteristics; plans of high school seniors to attend college since 1973; and financing of postsecondary school, only for 1973.

Data tapes are available from October 1967. Several publication series utilize these data: the P-20 (Population Characteristics) series regularly issues reports on "School Enrollment—Social and Economic Characteristics of Students" and "College Plans of High School Seniors". The P-23 (Special Studies) series has included five reports on the characteristics of American youth, persons aged 14 to 24, that place particular emphasis on school enrollment.

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Student Financial Assistance

Lois D. Rice

* * *

Student aid takes the form of grants, loans, and work-study opportunities to help defray the tuition and non-tuition (living) costs of students attending colleges and universities. Student aid in higher education in the United States will total more than $12 billion in the academic year 1978-79. While privately financed scholarships have existed since the early history of American colleges, government programs have developed rapidly in the past 15 years and now dominate the student aid picture.

In the early 1970's, aid to students rather than aid to institutions emerged as the preferred instrument of Federal policy toward higher education. Federally-sponsored student aid is currently approaching $7 billion, most of it directed to undergraduates from low and moderate income families. Need-tested programs, designed to foster equal educational opportunity by removing financial barriers and broadening access and choice in higher education, account for more than half this total. Eligibility for such support depends on the financial circumstances of students and their families. Other major Federal programs include entitlements for special categories of students, such as veterans and Social Security beneficiaries. Current debates in Washington center on alternative mechanisms for directing more relief to middle-income students—through expansion of need-tested programs to aid families higher on the income scale, or through a new program of Federal income tax credits that would be available, irrespective of income, to families incurring college expenses.

Though State governments continue to channel the bulk of their support for higher education into operating subsidies for public institutions, the States are also becoming increasingly committed to student aid. Nearly all States sponsor need-based scholarship programs, many stimulated by the incentive of a 50-50 Federal matching program authorized by Congress in 1972. Most States also operate direct or insured student loan programs, and a few have launched work-study plans that supplement the Federal effort in this area. In general, there has been a lack of coordination between Federal and State student aid policies and programs. An increasing number of States, however, are adjusting the terms of their grant programs to recognize the Federal Basic Educational Opportunity Grant program as the foundation of student aid.

Despite the predominant role of government in funding student assistance, postsecondary institutions continue to play a critical role in the actual delivery of aid to students. Campus aid administrators exercise considerable discretion in establishing student expense budgets and "packaging" aid, combining grant and self-help (loan and work) funds from a variety of sources to meet individual needs.

Student financial assistance is a relatively new field of public policy development and professional administration. Much of the available literature consists of informally published studies, monographs, and journal entries. The bibliography selected here generally excludes such items and focuses primarily on available published volumes, reports, and statistical references.

The bibliography is divided into four parts:

General. This subtopic includes works on student aid, some of which overlap with other topics (particularly Topic 9: Finance, and Topic 7: Educational Opportunity).

Governmental Policies. Included in this subtopic are studies, reports, and statistical sources concerning governmental policies in student aid. Most of these entries focus primarily on Federal policies. Few works broadly address State student aid issues, though a number of individual State studies are available.

Special Topics and special groups of students. Included in this subtopic are studies of loan programs, veterans education and training, and Social Security student benefits, along with works on graduate students, minority students, and part-time and independent students.

Studies and Statistical Sources. These materials concern the administration and delivery of student assistance.

TOPIC ORGANIZATION

21: Student Financial Assistance

- 1.0 General
- 2.0 Government Policy
- 3.0 Special Topics
- 4.0 Administration and Delivery of Student Aid

1.0 GENERAL

21:1.0/78-1

Toward Equal Access, Humphrey Doermann, 143 pp. (College Entrance Examination Board, New York).

This small volume makes a forceful and timely plea to policy makers and educational leaders to continue the national effort toward equal educational opportunity. The plight of the children of the poor has long been the focus of Humphrey Doermann's writings, and once again he ably pursues this interest while others dwell on the so-called plight of the "middle-class." As Doermann says, "the issues raised in this book are ones that run deep in our history. Their resolution during the next few years will help determine how well our training institutions and our economy can adapt to sharp demographic change, and at the same time act with fairness toward new generations of young adults. The issues merit our most thoughtful attention, without delay."

Doermann's is not an emotional plea. He well documents his arguments with statistical analyses and estimates of the distribution of high school graduates by aptitude and family income from 1964-84. Drawing on a survey of high school counselors, Doermann found that there are still nearly 200,000 qualified young people who are not in postsecondary education because they lack money. The enrollment of these students, often unemployed or underemployed, would not only be good public policy in Doermann's view, but also would cushion some sectors of higher education against projected enrollment declines during the next decade.

21:1.0/78-2

The Effect of Rising Costs on College Choice, Richard R. Spies, 69 pp. (College Entrance Examination Board, New York).

At the behest of the Consortium on Financing Higher Education—a group of 30 selective, expensive, private institutions – Richard R. Spies, Associate Provost at Princeton University, investigated the 1976 college application decisions of about 2,500 high school students drawn from the top 18 percent scorers on scholastic aptitude tests. He particularly examined the likelihood of their applying to the 27 institutions which cost at least $6,000 in 1976-77, and whose students had median combined SAT scores of 1,300 or more in 1970.

Spies found that academic ability, as measured by SAT scores, is the single most important factor in deciding whether to apply to a selective, high-cost institution. For example, he computed that it would take a $50,000 increase in family income to equal a 100 point score increase in affecting the application probability of a 1,300 SAT scorer with a $20,000 family income. He also found that high SAT scorers (1,300 and above) were about twice as likely (40 percent against 20 percent) to apply only to private institutions as to apply only to public institutions. Spies concludes that for high-ability students, the applicant's own ability and perception of the academic reputation of the institution were "much more important in the choice of a college than the financial considerations of price and income", and that this conclusion generally applies to subgroups (race, sex, religion, etc.) as well as to the group as a whole.

Underlying the Spies conclusion is an assumption on his part that the financial aid policy at most of the selective, high-cost institutions is designed to neutralize the effects of income differences for low- and middle-income applicants; the report does not attempt to measure the impact of net-pricing differences on the probability of applying. Spies acknowledges other limitations of his study. He concentrates only on high ability students in some highly selective institutions and relies heavily on multiple regression techniques with their statistical limitations.

Still, this is a careful, solid, and extremely well-written study that makes clear the hazards of generalizing about the responses of parents and students to rising college costs.

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In Topic 9: Finance, David Breneman discusses three publications that are also critical to an understanding of student finance: 9:4.3/74; 9:1.0/73; 9:1.0/73-2. They are listed below with a few additional notes.

Paying for College: Financing Education at Nine Private Institutions, Sloan Study Consortium, 137 pp. (University Press of New England, Hanover, N.H.).

As David Breneman notes in his annotation, the Consortium's financial aid recommendations stress the importance of loans in financing students, particularly those in high-cost colleges. Rather than a completely new federal loan mechanism, the Consortium suggested changes in the existing Guaranteed Student Loan (GSL) and National Direct Student Loan (NDSL) programs that would encourage greater participation of educational institutions as lenders and more uniform practices among State guarantee agencies. The Consortium also recommended longer and more flexible repayment schedules and the eventual consolidation of NDSL and GSL Programs. Policymakers are still debating these proposals.

Financing Postsecondary Education in the United States, National Commission on the Financing of Postsecondary Education, 442 pp. (U.S. Government Printing Office, Washington, D.C.).

David Breneman points out in his annotation the Commission's principal weakness – its use of outdated data in a model of student response to price changes. For those concerned with the flow of students into postsecondary education, there are still other shortcomings in the Commission's approach and model. First, the Commission defines equal opportunity simply as the "ability of each individual to enroll in *some* form of postsecondary education" rather than in *any* form suited to personal needs, capabilities and motivation. Enrollment restricted to some and not all suitable institutions is inherently unequal. Second, the Commission's model omits several key factors that influence enrollment decisions such as sex, parental education, race, institutional location, and curricular offerings.

Higher Education: Who Pays? Who Benefits? Who Should Pay?, Carnegie Commission on Higher Education, 190 pp. (McGraw-Hill Book Co., New York).

As David Breneman notes in his annotation, the Commission proposed a redistribution of public subsidies from high to low income groups in the form of student assistance. Consistent with its previous studies, the Commission recommended: full funding of the new Federal Basic Grants program and revision of its "half-of-cost" provision which affects low-income students in low cost institutions; a larger federal matching of State scholarship programs designed to encourage enrollment in the private sector; and the establishment of a National Student Loan Bank.

21:1.0/71

New Approaches to Student Financial Aid, Report of the Panel on Student Financial Need Analysis, 133 pp. (College Entrance Examination Board, New York).

Since the founding of the College Scholarship Service (CSS) in 1954, financial assistance has been increasingly awarded to students on the basis of demonstrated need. Now about 5,000 institutions, nearly two-thirds of the States, and numerous private agencies use the CSS to compute "need", meaning the difference between student and parental ability to pay (a subjective determination) and cost of attendance (a comparatively objective fact).

This report is the work of a blue ribbon panel chaired by the late Allan M. Cartter and appointed by the College Board in 1969 "to review within the current frame of reference of *parental responsibility* the present CSS system."

The Panel was clearly troubled by the limits of its charge, because it saw an emerging shift from parental to social responsibility for higher educational costs, especially as more low-income students entered college. The allocation of responsibility among the three groups that pay—parents, students and society—is at the center of today's debate over the form and direction of student finance.

Among its numerous recommendations for the CSS, the Panel urged additional aid for low-income students through inclusion of a "negative contribution" and a reduction in their expected contribution to educational expenses from summer earnings. Following the Panel's suggestions, the CSS adopted the "negative contribution", but it has not been widely used by institutions or in public programs designed to enhance educational opportunities for the neediest students. The Panel also recommended the incorporation of estimates of future earnings and living costs into needs analysis. Such estimates, in the Panel's view, were realistic and just, but have never been attempted in practice.

The Panel's most significant contribution lies outside its review of needs analysis. Using survey data supplied by colleges, the Panel found that need as the primary determinant of aid is a "hoped for" goal and not a reality. Not only were significant resources allocated without regard to need or national purpose, but also high need was a deterrent to admission for many low-income students; when they were admitted and given aid, it was more likely to be in the form of loans and work. The Panel concluded that receipt of institutionally controlled or administered grant aid continues to be highly correlated with student ability as measured by test scores and high school grades. Institutions still administer large sums of public monies, and there have been few, if any, recent studies that contradict the Cartter Panel's findings. In fact, some recent studies demonstrate that with increased Federal funds, institutions are increasingly using their own funds to award aid without reference to need.

21:1.0/70

Aspirations, Enrollments, and Resources, Joseph Froomkin, 151 pp. (U.S. Government Printing Office, Washington, D.C.).

While the author describes this publication as a monograph, it is actually a lengthy study designed to project for the next decade the level of Federal expenditures required to meet the aspirations of Americans for higher education, to support the national goal of equal opportunity, and to maintain the quality and viability of colleges and universities. It is required reading for all students of higher education – not merely those concerned with student finance.

Joseph Froomkin, an economist, is a solid and meticulous analyst. Rereading this well-written and lucid study several years after publication, one is struck by the accuracy of his projections of today's demand for higher education, enrollments, program costs, and manpower needs. Froomkin foresaw a creeping "middle-income-squeeze" in meeting increasing college costs. He suggested alternative subsidy mechanisms that might well have tempered price increases and possibly the current "middle-class revolt" as well.

Froomkin documents the changing character of the higher education population–the rising aspirations of women, minorities and especially the new aspirations of the children of the poor and blue-collar workers. He clearly defines equal opportunity as the achievement of parity of low-income students with high income students in their rates and timing of enrollment in higher education and in their patterns of attendance.

Like the early Carnegie reports and the Rivlin Report, published almost simultaneously with this study, Froomkin concludes that expanded Federal student assistance is the most promising device to overcome unequal opportunities.

The volume has four parts. Part I uses a demand model and an equality model to project social demand for higher education. Part II describes the diversity of the postsecondary system, its costs, subsidies to students, curricular offerings, and admissions policies. Part III focuses on graduate education and the pros and cons for general institutional aid. Part IV estimates the financial needs of students and institutions and discusses alternative levels of Federal support for higher education.

2.0 GOVERNMENT POLICY

21:2.0/77

Postsecondary Education: The Current Federal Role and Alternative Approaches, Congressional Budget Office, 59 pp. (U.S. Government Printing Office, Washington, D.C.).

Budget issue papers such as this, prepared by the Congressional Budget Office (CBO), typically describe options open to the Congress for a particular fiscal year, with the choice of subject matter and the range of described options depending on CBO judgments about timeliness and plausibility. This budget issue paper, for example, was cast in terms of possible student aid appropriation actions for the Federal fiscal year that began on October 1, 1977.

But last year's CBO papers are not necessarily like last week's newspapers, for in introducing perishable budget options CBO often provides a stage-setting discussion of continuing value for researchers. It is on that basis that this paper is of enduring interest.

The paper first establishes a conceptual framework for classifying Federal higher education goals, finding them to be 1) the provision of equal educational opportunity, 2) easing the financial burden of college attendance, and 3) maintaining and improving education institutions. The paper then examines the current state of affairs and demonstrates that opportunity is not yet equal, suggests that net college charges faced by low and moderate income families have declined as a percent of family income in recent years and have been stable for middle-income families, and expresses a courteous dubiety that the financial plight of the higher education enterprise is worsening. Finally, before proceeding to a discussion of fiscal 1978 options, the paper touches on the impact of Federal spending in achieving higher education goals. The author describes patterns of Federal spending and of shifts in student enrollments among income classes and institutions, but ultimately states no conclusion as to whether any of the perceived changes are attributable to Federal financial interventions.

21:2.0/76

Congress and the Colleges, Lawrence E. Gladieux and Thomas R. Wolanin, 273 pp. (D.C. Heath and Company, Lexington, Mass.).

This is a case study of Federal higher education policymaking which focuses on the debate and tensions among members of Congress, educational associations and the Executive Branch during the 1972 reauthorization of the Higher Education Act. The authors, each active participants in the debate, interviewed more than 65 men and women in the Congress, the Executive Branch, on campuses, in higher education associations and policy groups to write one of the only systematic studies of the formulation of Federal higher education policy.

The authors not only place the 1972 legislation within an historical context but also within the context of other domestic policy initiatives during the Nixon era. The authors deftly and dramatically portray the issues, the controversy and maneuvering among the many participants, and the outcome of the 1972 struggle. The events of that year marked a complete turn in Federal higher education policy from emphasizing aid to institutions to emphasizing aid to students. The centerpiece of the legislation was the newly authorized program of Basic Educational Opportunity grants. That program, totaling more than $2 billion in fiscal 1979 is now the principal vehicle for Federal support of postsecondary education.

See also: 9:2.0/78 Federal Assistance for Postsecondary Education: Options for Fiscal Year 1979, Congressional Budget Office, 67 pp. (U.S. Government Printing Office, Washington, D.C.).

See also: 9:6.0/A-3 National Association of State Scholarship and Grant Programs, 9th Annual Survey, 1977-78 Academic Year, 54 pp. (Illinois State Scholarship Commission, Deerfield).

See also: 9:2.0/75 The Federal Role in Postsecondary Education: Unfinished Business, 1975-1980, Carnegie Council on Policy Studies in Higher Education, 97 pp. (Jossey-Bass, San Francisco).

See also: 9:2.0/71 Financing Higher Education: Alternatives for the Federal Government, M.D. Orwing, ed., 390 pp. (American College Testing Program, Iowa City).

21:2.0/75

Federal Student Assistance: A Review of Title IV of the Higher Education Act, Consortium on Financing Higher Education, 82 pp. (University Press of New England, Hanover, N.H.).

This is a report of 23 leading private institutions—members of the Consortium on Financing Higher Education (COFHE)—which agreed upon and presented to the Congress recommendations for needed change in the Title IV Federal student aid programs. COFHE sought to make the Federal programs equitable and coherent, as well as more effective vehicles of social policy. In his forward to the report David Truman, then President of Mount Holyoke College and COFHE Chairman, stated:

> We believe that effective programs of student assistance are a critical need that must be met if the society is not to suffer irreparable loss. This report cannot claim to provide a final answer to that need. It does represent, however, a carefully studied and fully debated effort to provide a blueprint for a student aid structure that takes into account the problems and needs of all types of students in all kinds of postsecondary institutions.

The report fulfills its own goals. Under the able direction of Richard J. Ramsden, the Consortium rose above institutional self interests and produced a balanced and fiscally prudent set of recommendations designed to enhance student access and choice in postsecondary education. It is a detailed and well organized report with four parts. One is devoted to each type of Federal student assistance—grants, work, and loans—and a final part summarizes the recommendations and estimates their costs. The report also contains useful appendices that show the potential impact of the proposals on students and differing types of institutions.

In Part I, the Consortium suggests a new relationship among the three Title IV grant programs. Basic Educational Opportunity Grants (BEOG) would foster access by meeting the rather uniform non-instructional costs that students face wherever they attend college; Supplementary Educational Opportunity Grants (SEOG) and State Student Incentive Grants (SSIG) would foster student choice by focusing on tuition and fees or instructional costs of attendance. BEOG's and SEOG's would both become national entitlement programs. In this part of the report the Consortium also recommended the elimination of the controversial half-cost provision in the BEOG program which would benefit low-income students in low-cost institutions.

In Parts II and III, the consortium urged a significant self-help expectation from students receiving Federal grants, suggested an increase in the employer share of the Work Study program, and consolidation of the National Direct Student Loan (NDSL) and Guaranteed Student Loan (GSLP) programs into one single, rational and cost effective program that might also include Health Professions loans. Short of consolidation, the Consortium asked policymakers to conform the interest rates, repayment periods, and grace and forbearance provisions of the several loan programs.

Many of COFHE's proposals gained the support of other policy groups, and some educational associations. Still, the report had little impact on Congress. Most recommendations for substantive change failed during the 1976 reauthorization, when the Congress decided to continue testing the new programs it had authorized in 1972 and "tinker" with the older ones.

Title IV is still a patchwork quilt, and if Congress decides to weave a smoother cloth it may want to consider seriously the reasoned COFHE recommendations during the upcoming reauthorization of the Higher Education Act.

21:2.0/70

Quality and Equality: Revised Recommendations: New Levels of Federal Responsibility for Higher Education, Carnegie Commission on Higher Education. A Supplement to the 1968 Special Report, 37 pp. (McGraw-Hill Book Co., New York).

This is a brief supplement to the Commission's 1968 report *Quality and Equality: New Levels of Federal Responsibility for Higher Education*. It should be read in conjunction with that earlier report. Once again the Commission sets the achievement of equal educational opportunity as its highest priority and urges new and increased levels of student assistance. With this supplement, the Commission gave new force to two of its earlier proposals which were beginning to divide members of key Congressional committees and the higher education community itself–a program of basic opportunity grants for low and moderate income students and "cost of education" allowances for institutions based on the number of enrolled grant recipients.

Under the revised proposals, the Commission made no distinction between the amount of basic grants available to lower and upper division students. All eligible undergraduates would receive grants up to a $1,000 maximum per year. Also, unlike *Quality and Equality*, the revised report argued that students in approved proprietary and vocational schools should be eligible for Federal aid – a change later adopted by Congress for all Title IV student aid programs in 1972.

To expand the range of institutional options for needy students, the Commission stressed again the need for a National Student Loan Bank or at least the establishment of a secondary loan market through the charter of a "National Student Loan Association." A secondary market became a reality in 1972 when the Congress established the Student Loan Marketing Association (Sallie Mae). But the legislation creating Sallie Mae did not empower it to make direct loans; that Commission suggestion is an idea whose time has not yet come.

While most of this report's proposals would increase the levels of support for programs earlier recommended, the Commission revised downward–from 500 to between 230 and 280–the number of new 2-year colleges required in the 1970's and urged, instead, the establishment of 50 new urban 4-year colleges to meet the needs of metropolitan areas.

21:2.0/69

Toward a Long-Range Plan for Federal Financial Support for Higher Education. U.S. Department of Health, Education, and Welfare, 73 pp. (U.S. Government Printing Office, Washington, D.C.).

This publication, usually called the Rivlin Report after Alice M. Rivlin, then Assistant Secretary for Planning and Evaluation at HEW, was issued at the end of the Johnson Administration. Its first priority, and by far its most expensive recommendation—the equalization of postsecondary educational opportunity by grants to remove financial barriers—built on the Carnegie Commission's 1968 recommended grant program, was subsequently embraced by the Nixon Administration, enacted by the Congress in 1972, and has remained the Federal Government's announced first priority in this field throughout the 1970's.

The Rivlin Report is a remarkably lucid and perceptive analysis and forecast of the Federal role in supporting higher education. Irrespective of its recommendations, it is a model of what government reports ought to be: a summary that summarizes, a list of crisply-stated policy objectives, a fact-filled description of the current state of the subject (in this instance, higher education in the late 1960's), an explicit discussion of major issues and alternatives, a set of articulated priorities and recommendations, and a conclusion that not only connects recommendations to objectives but states their estimated costs over time.

A distinguishing characteristic of the Rivlin Report is the absence of blandness; it snaps and crackles. Though by no means have all its recommendations been adopted—for example, the proposals for more financial support of graduate education—it clearly had, and still has, a convincing and persuasive message for policymakers. Its continuing vitality is exemplified in the report's discussion of a national student loan bank, the possibility of which remains actively on the legislative agenda of the late 1970's.

21:2.0/68

Quality and Equality: New Levels of Federal Responsibility for Higher Education. Carnegie Commission on Higher Education, 54 pp. (McGraw-Hill Book Co., New York).

This was the Carnegie Commission's first report, and it announced a position and set of policy directions from which the Commission and its successor body, the Carnegie Council, have never deviated. Each body emphasized that the nation's first priority is to fulfill its promise of equality of educational opportunity. As the title of the report implies, the Commission saw no tension between quality and equality. "Strong institutions," it said, "could act energetically and aggressively to open new channels to equality of opportunity."

The Commission recognized and sought to preserve the traditional roles of States and the private sector in financing higher education. It saw limits, however, to these resources. Thus in this and subsequent reports, the Commission advocated an expanded yet budgetarily realistic role for the Federal Government in financing higher education.

Quality and Equality documents the Federal involvement in higher education during the late 1960's and suggests at least a tripling of the Federal effort by 1976-77, a target that would "not penalize other urgent national priorities." In considering an enlarged Federal role, the Commission discussed proposals for tuition tax credits and dismissed them as regressive. It also rejected general support of institutions. Neither, in its view, would assure expansion of programs and priorities of primary national concern. These positions were controversial. The higher education community represented by Washington-based associations favored general institutional support. In making its proposals, the Commission was living up to its mandate from the Carnegie Foundation to speak *about* higher education, its needs and its contributions, in relation to the nation's social concerns and purposes, rather than to speak *for* higher education.

The Commission recommended a program of Federal basic grants not dependent, like the Federal campus-based aid programs, on where students attended college. Instead, need alone would determine the amounts of these grants. The maximum grants would be $750 for lower division, rising to $1,000 for upper division students and $2,000 for graduate students. The Commission used the GI Bill as a precedent, but did not at this juncture urge direct Federal payments to students. The grants would be payable through institutions.

*Quality and Equality **Revised***, issued two years later, raised the recommended maximum grant level for undergraduates to $1,000. In 1972 the Congress enacted a basic grants program authorizing a $1,400 maximum grant for eligible undergraduate students.

As incentives to States, institutions, and the private sector, the Commission proposed a supplementary matching grants program. Moreover, it urged that institutions receive monies for Federal scholarships equal to 10 percent of the total sum of basic grants held by their enrolled students. Also in 1972, the Congress authorized a Federal/State matching scholarship program, State Student Incentive Grants (SSIG), but made few changes in supplemental grants. Policymakers are still considering how supplementary grants should be allocated and meshed with basic grants and State scholarships. The Commission also proposed a new program of doctoral fellowships and advocated the establishment of a National Student Loan Bank, still a hotly debated alternative to current Federal loan programs.

Instead of general institutional support, the Commission recommended cost-of-education allowances to institutions–a program authorized in 1972 but never funded.

3.0 SPECIAL TOPICS

21:3.0/77-1

Social Security Benefits for Students, Congressional Budget Office, 25 pp. (U.S. Government Printing Office, Washington, D.C.).

The Congressional Budget Office (CBO) from time to time prepares background papers on subjects of interest to Congressional committees. The present background paper, requested by the Subcommittee on Postsecondary Education of the House of Representatives Committee on Education and Labor, is an important part of the scarce literature on a little-publicized $2 billion Federal student aid program: the continuation of Social Security dependents benefits to 18-21-year-olds who would lose their status as eligible beneficiaries if they were not full-time students.

The paper begins with a description of the origin of Social Security student benefits in 1965 legislation and traces their growth over the next decade, by which time they included one-eighth of all full-time enrolled 18-21-year-olds. The program was launched when no Federal student grant programs existed. The author identified several policy issues that were either inherent in the program when enacted or have risen by reason of subsequent Federal legislation creating other delivery systems for student aid. The main issues so identified grew out of: 1) the method of financing the student benefits, 2) the absence of a needs test (about one-third of the beneficiaries come from families above the median income level), 3) the lack of coherence between Social Security student benefits and other, later enacted, Federal student aid programs, and 4) the confusion over the nature of the program, i.e., is it aid to students or is it aid to families?

The paper concludes with a discussion of the budget implications and the arguments for and against various possible changes in the program, ranging from a shift of its financing to general revenues, to its complete termination. As is usual with CBO publications, there are no recommendations.

21:3.0/77-2

Student Loans: Problems and Policy Alternatives, Lois D. Rice, ed., 169 pp. (College Entrance Examination Board, New York).

This volume contains the contributions of 20 people in addition to the editor: seven essays by nine authors and commentaries on those essays by another eleven. The participants vary widely in their perspectives and proposals for student loan programs, but they share the responsibility, and the credit, for a final product remarkable for its clarity, its balance, its thoroughness and its utility to policymakers and those who seek to comprehend the forces besetting policymakers.

The essays are, in order, an historical recounting of the beginnings of Federal student loan programs; an overview of student loan issues and policy alternatives; a discussion and a defense of the role of the States in such loans; an examination of a national student loan bank approach; an exploration of ways to make existing student loan programs simpler, more cost-effective, and rational; an inquiry into the problems of measuring and stating student loan defaults; and a concluding set of reflections on the special problems of graduate student loan financing.

What gives this volume a special tang is the salt and the pepper added by the commentators, who remind readers that the problems are more complex and the solutions not so straightforward as the several authors would have them believe. Reality accompanies the dream, as it were, instead of occupying its usual place behind.

As one of the commentators, Chester Finn, puts it, this volume "obliges us to think on at least three levels: social philosophy (who pays for higher education?), economic analysis (the cost-effectiveness of various alternatives), and what I would call, lacking a more felicitous phrase, political and administrative reality." It is the insistence on just such three-level thinking that distinguishes this volume from most writings on student loan programs, and makes it among the most valuable works on the subject.

See also: 7:3.0/76-2 Minority Group Participation in Graduate Education. Report with Recommendations of the National Board on Graduate Education. (National Academy of Sciences, Washington, D.C.).

21:3.0/74-1

Financing Part-time Students, Report of the Committee on the Financing of Higher Education for Adult Students, Robert J. Pitchell, Chairman, 118 pp. (American Council on Education, Washington, D.C.).

The main findings of this American Council on Education committee were:

1) A majority of all postsecondary students attend on a part-time basis, and their proportion of the whole is increasing.

2) Part-time students are essentially different from full-time students: they are mostly employed, they are older, and they are more concerned with occupational needs; in other valued ways, however, part-time and full-time students are alike: in seriousness of purpose, in ability, and in performance.

3) Regardless of family income, part-time students on the whole, when compared to full-time students, are massively discriminated against in financial terms.

4) Federal and State categorical public problem-solving programs (like cooperative agriculture extension, law enforcement assistance, drug abuse education, etc.) satisfy the educational needs of special adult clientele groups in a manner not possible under any other organizational or financing scheme.

The Committee recommended a number of changes calculated to correct the discrimination it perceived: proportional eligibility for student financial assistance as a matter of right, tax credits for individual wage-earner educational expenditures, even if not directly related to employment, etc. But the Committee thought that, by and large, professional and occupational continuing education should be financed from private sources. However, it recommended a 7 percent tax credit for a small business organization's expenditures aiding employees to meet educational costs; apparently the credit would be on top of, not in place of, the current deductibility of such expenditures in determining taxable business income. The Committee also urged Federal general support for strengthening institutional delivery systems for part-time students whose education and training would serve the public interest.

21:3.0/74-2

Who Pays? Who Benefits? A National Invitational Conference on the Independent Student, College Scholarship Service, 102 pp. (College Entrance Examination Board, New York).

Following the 1971 ratification of the 26th Amendment—which lowered the voting age to 18—the problems, real and fancied, attendant upon the independent student grew rapidly, as did the numbers of such students, causing much policy confusion among institutions and financial aid administrators. For that reason, the College Scholarship Service convened an invitational conference in the Spring of 1974, at which the 140 participants explored such issues as: What is an independent student? What are the psychological and social implications for students, and the economic and political implications for everybody, growing out of the rising numbers of young people claiming and being granted status as independent adults?

The conference heard presentations from experts in politics, economics, sociology, financial aid and law. Those presentations, plus a paper delivered by a spokesman for the National Student Lobby, make up the body of this volume. While to some extent the conferees were concerned with non-financial issues (mainly involving the vanishing role of institutions as regulators of student behavior), they were overwhelmingly interested in discussing money and who should get it based on what standards.

The conference concluded without formally adopting any policy positions or recommendations. But there evidently was general agreement on the following propositions: 1) Financial information from all parents of dependent aid applicants should be expected, and parental ability (not willingness) to pay should enter into award decisions, and 2) In deciding who is independent, and therefore for whom parental financial information would be irrelevant, the test should be that the student is not currently claimed as a dependent for Federal income tax purposes by anyone other than a spouse, and that the student certifies no support will be received from parents during the year for which aid is requested.

21:3.0/73-1

Educational Assistance to Veterans: A Comparative Study of Three GI Bills. James L. Bowman, 443 pp. (Educational Testing Service, Princeton, N.J.).

In the spring of 1973, Congress directed the Veterans Administration to obtain "an independent study" comparing the adequacy and effectiveness of Vietnam era veterans' educational assistance programs with those that followed World War II and the Korean War. The VA selected the Educational Testing Service to conduct the study, and this report is the product of that study.

The title of the report suggests that the authors were examining statutory provisions, whereas in fact they made an extended study of the operations of the three GI Bill programs involved, to *include* comparisons of participation rates, benefits, kinds of training obtained, extent of counseling provided, frauds and abuses, impact on the disadvantaged and the like.

For a time in the 1970's, annual educational subsidies paid under the GI Bill exceeded the total of all other Federal postsecondary student aid programs combined. The peak was $5.5 billion in fiscal 1976; as eligibility gradually runs out, program totals are declining. The estimated fiscal 1979 GI Bill costs will be about $2.3 billion, still enough to be the largest single Federal student assistance program, even if no longer larger

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than all the rest together. The GI Bill share will continue to go down until it disappears in a decade or so.

The report is chiefly valuable as an historical and statistical chronicle of the peaks and valleys of changing social and political attitudes about educational assistance for ex-servicemen. While superficially the attitudes have remained more or less constant, actual experiences have been far different. World War II was a "popular" war in which most able-bodied young males served, and they were returned to civilian life in huge numbers over a single 18-month period. Vietnam was an unpopular war in which most able bodied males did not serve, and those who did came back to civilian life in monthly driblets over an 8-year period. It has taken a continuous act of will to avoid blaming Vietnam era veterans for their own plight. Unlike their fathers, they got no parades; and the Bowman report suggests, though it falls short of demonstrating conclusively, that they got less educational assistance as well, however measured.

21:3.0/73-2

Toward Equal Opportunity for Higher Education. Report of the Panel on Financing Low-Income and Minority Students in Higher Education, Lois D. Rice, ed., 71 pp. (College Entrance Examination Board, New York).

In 1970 the College Board appointed a panel of leading minority educators—Black, Chicano, Oriental, Puerto Rican and Native American—to make recommendations for Federal policy that could lower the most persistent barrier to postsecondary education for poor and minority students: lack of money. This is the Panel's final report.

The Panel's proposals seek to achieve one fundamental objective—equality of opportunity for higher education. The report begins with a concrete definition of that goal along six dimensions: 1) equalization of enrollment by income; 2) equalization by race; 3) equalization in the timing of enrollment; 4) equalization in enrollment status; 5) equalization in the retention of students in higher education; and 6) equalization in the distribution of minority and poverty students among differing higher education institutions, and provisions for collegiate options that meet their individual interests, needs, and abilities.

The Panel's deliberations took place during the heated debate over the 1972 reauthorization of the Higher Education Act. In a number of interim reports, the Panel set the stage for its final recommendations. It urged continued "targeting" on low-income students of Federal funds in the campus-based student aid programs, Supplemental Educational Opportunity Grants (SEOG), College Work Study (CWS), and National Direct Student Loans (NDSL). It also supported passage of the controversial Basic Educational Opportunity Grants program (BEOG).

The Panel's major proposal was also for a program of direct Federal grants to students, but unlike the BEOG program, enacted in 1972 with a $1,400 maximum grant, the Panel proposed a $2,000 maximum grant—without a half-cost provision, and without an elaborate needs test. The Panel's grant program would provide some grant assistance to all students from families below the median income of all families. The neediest of students would receive funds sufficient to assure their participation in at least low-cost institutions. Institutional choice was equally important to the Panel, so it proposed the establishment of a National Student Loan Bank to replace existing loan mechanisms. In addition, the Panel advocated a voucher system that would enable educationally disadvantaged students to purchase required remedial or special services to enhance their retention in postsecondary education.

This is still a timely report. Equal opportunity, as the Panel defined it, is still an unrealized goal, as are a $2,000 maximum basic grant and easy access to loans. The Panel's concerns are still the concerns of many today.

21:3.0/72

New Patterns for College Lending: Income Contingent Loans,
D. Bruce Johnstone, 209 pp. (Columbia University Press, N.Y.).

This study, funded by the Ford Foundation, was sparked by Yale's 1971 launching of a lending program in which the student borrowers had an option to tie their annual repayment obligations to income received over about 25 years. D. Bruce Johnstone, with assistance from Stephen Dresch, devoted a year to analysis of the financial, administrative, legal and public policy issues arising out of the income contingent loan concept.

The author makes the initial point that income contingent loan proposals are caught in the familiar controversy between those who treat all student loan programs as against sound public policy, and those who regard them as acceptable, inevitable and improvable devices for helping finance higher education costs. Chapter 2 presents the arguments for and against income contingent loans, in concept rather than in practice (for there has been too little of the latter to count), and suggests that the opponents raise questions with more than doctrinaire implications.

Chapter 3 lists and describes the variety of income lending plans extant in the early 1970's (no important new variations have been described since then). Chapter 4 contains a discussion of the policy alternatives, all subject to the author's conviction that generalizations in this field are unwarranted: conclusions will depend on particular contexts on inadequate (because not available) economic data, and on judgments in areas yielding no single right answer. Johnstone does, however, assert that external subsidization of income contingent student loans would "do considerably more good" than other current (and unspecified) uses of public higher education funds; that there should be no debt forgiveness except in serious hardship instances, defined as annual payments exceeding 4 percent of income over 10 or 15 years; and that repayment schedules should be long-term.

Chapter 5 describes the financial implications of various combinations of policy choices for income contingent lending. The sixth and final chapter contains Johnstone's view of the future role for such lending programs. He argues persuasively that any such plan—indeed, any sizeable student loan program, income contingent or otherwise—"requires the government to either provide the funds or absorb the capital risk." Given that fundamental point, he sees "income contingency as an exciting and potentially valuable type of loan contract."

21:3.0/71

Credit for College: Public Policy for Student Loans, Robert W. Hartman, A Report for The Carnegie Commission on Higher Education, 152 pp. (McGraw-Hill Book Co., New York).

The Carnegie Commission on Higher Education, impressed in the late 1960's with both the prospective importance and the actual complexity of student loan arrangements, commissioned this study from the Brookings Institution. It includes six chapters (95 pages) of analytical materials by Robert W. Hartman, plus his summary of an April 1970 Brookings conference attended by 35 economists, bankers, educators and government officials, who discussed the problems of student loan programs and proposals for change.

Hartman first describes the philosophical bases for analysis of student loan programs, from the one extreme holding that higher education primarily confers private benefits, to the other extreme emphasizing that its benefits are primarily public. The advocates of the first stand have no problems with loans as such, though they are opposed to their public subsidization. Proponents of the latter thinking regard loans as devices to shift the costs of public benefits to private shoulders, and therefore oppose efforts to make student loans easier to obtain.

The author suggests in Chapter 1 that the debate would be more useful if it were not over whether there should be subsidies for students—manifestly there are—but rather how great the subsidies should be, what form they should take and who should benefit from them. He proceeds with his analysis by devoting three chapters to descriptions of the workings and effects of existing loan programs. Chapter 5 gives Hartman's conclusions about two questions: Who gets the benefit of present loan programs? Who should get them?

Hartman's chief contribution is in Chapter 5, where he distinguishes between governmental intervention that actually makes student borrowing possible, and governmental subsidies in the form of zero or low interest rates. He sees the former as appropriate, irrespective of the income class of the borrower, and the latter as inappropriate, as a capriciously distributed transfer payment from taxpayers to borrowers (always excepting loan programs highly targeted on low-income students). He also points out that easing repayment provisions, thereby prolonging interest subsidies, is to ask society to pay for greater consumption by young college graduates, and he questions this on equity grounds.

Chapter 6 is devoted mainly to a discussion of a national student loan bank, suggesting that such a bank is the superior alternative regardless of one's views on who should be subsidized and by how much. Hartman concludes the chapter with four pages on the equity and efficiency of NDSL teacher loan cancellations; he finds little of either in the program.

4.0 ADMINISTRATION AND DELIVERY OF STUDENT AID

21:4.0/78-1

Student Expenses at Postsecondary Institutions, 1978-79. College Scholarship Service, 79 pp. (College Entrance Examination Board, New York).

For the past several years the College Board has published annually the budgets institutions use and submit to the College Scholarship Service (CSS) to determine the financial need of aid applicants. At first, this publication was simply a compendium of student budgets with some brief introductory comments. It therefore had little use outside the CSS membership. Now it is a "best seller" among school counselors and parents who use the budgets in conjunction with another College Board publication, "Meeting College Costs," to derive preliminary estimates of student financial need at any one of about 2,700 postsecondary institutions.

Researchers, planners, and members of the press also use *Student Expenses*, particularly the year by year analysis of changing college costs. Unlike the cost data of the National Center for Education Statistics collected in its Higher Education General Information Survey (HEGIS), this publication provides institutionally reported budgets for four types of students–dependent resident students living on and off campus, dependent commuting students, and self-supporting or "independent" students. Unlike the HEGIS cost data, CSS simply reports average costs of reporting institutions rather than weighted average costs of all institutions. For some researchers this is one of the few shortcomings of this useful publication.

21:4.0/78-2

CSS Need Analysis: Theory and Computation Procedures for the 1978-79 FAF, College Scholarship Service, 111 pp. (College Entrance Examination Board, New York).

This book, issued annually, describes the theory and rationale for the College Scholarship Service's system for determining the financial need of aid applicants. It contains a number of sample cases and tables from which one can easily infer the "expected contributions" to educational expenses from families and students with differing economic circumstances. The book also prescribes methods for treating families with unusual circumstances—e.g., divorced, separated, businessmen and farmers.

In addition to these technical sections, the book contains a brief history of the College Scholarship Service and a discussion of the Principles and Practices of student Financial Administration, which have been endorsed by the nearly 2,000 institutional members of the CSS Assembly.

The book stresses that individual financial aid administrators must use their own judgment in determining student need. The CSS system, however rational and sophisticated, cannot substitute for the experience of aid administrators who must deal with individual families and individual problems.

21:4.0/77

Recommendations for Improved Management of Federal Student Aid Programs, A Report to the Secretary by the Student Financial Assistance Study Group, U.S. Department of Health, Education and Welfare, 203 pp. (U.S. Government Printing Office, Washington, D.C.).

In October 1976, Secretary David Mathews appointed a 12-member study group from outside the government to examine the management of HEW student aid programs and to make recommendations for improvement. The group submitted its final report to Secretary Joseph A. Califano in June 1977. While it might be supposed that the intervening change in Administrations would have meant a perfunctory discharge of the study group's task, in fact it produced a major contribution to the literature on student aid programs.

After observing that the Federal Government has no overall philosophy of financial assistance to students, with governing legislation that is a patchwork and an administering agency (HEW) that had given "little thought to good organizational management or control", the study group produced, explained and justified 14 recommendations for reform in the administration of student aid programs.

Some of the recommendations are of limited interest because they involve correcting bureaucratic shortcomings that annoy and impede but in themselves present no policy issue of any consequence (such as the failure to prepare manuals and handbooks for most of the programs). However, most of the recommendations flow from informed and thoughtful judgments about perceived flaws in the equity and efficiency of the programs, and so have a claim to attention from a wider audience than a handful of administrators at the top of HEW.

The report is organized into three chapters. Chapter I deals with eligibility, and includes sub-chapters on institutions, students, and lenders. Each sub-chapter begins with a section on background and issues and is followed by detailed recommendations, each of which is accompanied by a statement of its rationale. The other chapters are similarly constructed. Chapter II deals with delivery systems, with sub-chapters on allocation of funds for campus-based programs, the institutional funding process for those programs, the student application and award process, information needs of parents and students, and payment processes. Chapter III is devoted to program management and integrity. Sub-chapters here cover organization and staffing, program management, training, and program integrity.

21:4.0/75-1

National Task Force on Student Aid Problems, Final Report. National Task Force on Student Aid Problems, 92 pp. (Available from National Association of Student Financial Aid Administrators, Washington, D.C.).

This is commonly called the Keppel Report after Francis Keppel, former U.S. Commissioner of Education and Task Force chairman. Initiated by the College Board and supported by a group of foundations, the Task Force was a voluntary association of representatives of government, higher education associations and institutions who sought to achieve one goal–simplification of the administration and operation of an increasingly complex set of Federal, State and institutional student aid programs.

The Task Force deliberately chose to avoid policy recommendations on the future form and direction of student aid programs. It broke its own rules only once, when it asserted that more aid resources were needed. The Report urged others to determine the required amounts of new aid and to specify policy and program alternatives.

The Report is unique because it produced rapid results. The Task Force recommended a common data form for aid applicants, a uniform methodology for determining financial need, and revisions in the conflicting schedules for aid applications and awards. For the most part, these recommendations have been adopted in State, Federal, and institutional student aid programs. The Task Force would be the first to admit that it fell short of its stated goal. The aid process is still complicated, confusing, and chaotic, particularly for students and parents. There are now common data elements but on several different forms, a uniform methodology for the administration of some but not all student aid programs, and little early assurance for students of the kinds and specific amount of aid they might receive.

21:4.0/75-2

Perspectives on Financial Aid. (College Entrance Examination Board, New York).

Several experienced student aid administrators joined in writing this resource and planning guide for new aid administrators. After an initial essay on the history of financial aid in the United States by Rexford Moon, first Director of the College Scholarship Service, several authors discuss the desired organizational structure of financial aid offices, their budgetary requirements, and relationship to other institutional administrative units.

The second half of the volume concerns sources of aid, particularly governmental, how they can be tapped, and how differing forms of aid – grants, loans, work – should be "packaged" and used to serve the needs of students and institutions.

Clearly, this is a "how to" volume and a useful one. The authors include Eunice Edwards, Walter North, Norman Beck, Edward Sanders, Robert Huff, Joseph Boyd, Gene Miller and Richard Dent.

22

Work and Education

Lewis C. Solmon

* * *

This topic covers a variety of issues regarding the role of higher education in preparing graduates to fulfill the nation's demand for trained manpower. The issues range from the marketability of traditional liberal arts and vocational preparation, to the accuracy of models in forecasting students' selection and success in certain fields. Underlying each issue, however, is the idea that the relationship between education and work has numerous implications for planning and policymaking at the Federal and State levels.

Much recent public policy has dealt with questions of financing institutions of higher education. To the extent that funding is justified, in part, by colleges and universities producing graduates to meet State and national labor requirements, the ability of graduates to secure productive jobs commensurate with their level of training is of vital concern. Institutions must convince State and Federal policymakers that their graduates are satisfying important labor needs and also that education provides certain personal and social benefits of value to society. This places greater emphasis on consumerism and accountability in higher education, with decisions to expand or contract certain programs dependent, in part, on projections of labor requirements.

This section emphasizes literature dealing with the relationships of work to higher education. The noncollegiate sector of postsecondary education is of only indirect concern. Volumes have been chosen for their usefulness in acquainting readers with current work and education issues, for their impact on educational policy, and for their comprehensiveness in presenting critical analyses and persuasive position statements.

Materials dealing with credentialing, or the view of schooling as a societal screening or sorting device, although integral to a thorough treatment of the work and education topic, are excluded because they are covered in Topic 5: Economics. A possible subtopic—human capital, education as an investment in people—is excluded because it deals more specifically with education than with work. Similarly, a subtopic dealing with the quality of working life is not included, for it is indirectly concerned with education. Finally, materials covering lifelong learning are excluded because such education is viewed as a continuous enrichment process not limited solely to occupational training or retraining. (For discussion of lifelong learning see Topic 7: Educational Opportunity; Subtopic 2: Adults).

The following annotations, then, fall under five subtopics:

Career Development. This subtopic focuses on the nexus between a student's education and work. Issues include vocational development and occupational choice, career counseling, and the problems of providing job market information to students.

Career Education. Citations listed here provide an overview of the effectiveness of career information as it reaches students and affects their career choices. Entries involve "eventual versus intended" careers, job expectations versus the actual situation, and making institutions more responsive to students' occupational needs.

Job-related Outcomes. What is the value of a college education? Although there are many benefits of attaining education, the citations here are restricted to the job-related outcomes of higher education, such as job satisfaction, job challenge, and income. Much of the literature in this area surrounds the controversial area of the "over-educated" or "underemployed" college graduate.

Forecasting. As hazardous as it is to forecast human resources, the need to project and plan for the supply and demand of future workers is essential. General theoretical approaches and specific forecasts are considered here, among them the effects of labor projections on society, educational institutions, and students themselves. Although much of the work on forecasting has focused on Ph.D.'s, projections of labor supply and demand for those with bachelor's and master's degrees are also included.

Basic Data Sources. This section briefly lists the most useful sources of data regarding college-educated workers. Most entries are revised or updated periodically and provide useful references for analyzing various aspects of the work and education topic. Publications involving such data as numbers and kinds of doctorate recipients, degrees earned, and starting salaries, are not annotated.

TOPIC ORGANIZATION

- 22: Work and Education
  - 1.0 Career Development
  - 2.0 Career Education
  - 3.0 Job-related Outcomes of Higher Education
  - 4.0 Forecasting
  - 5.0 Basic Data Sources

1.0 CAREER DEVELOPMENT

See also Topic 20: Student Characteristics and Development.

22:1.0/76

Occupational Information: Where to Get It and How to Use It in Career Education, Career Counseling, and Career Development, Fourth Edition, Robert Hoppock, 383 pp. (McGraw-Hill Book Co., New York).

Robert Hoppock, Professor Emeritus of Counselor Education at New York University, draws upon his considerable experience to educate professionals involved in occupational counseling or distribution of occupational information. Parts of the book will be of interest to educators, economists, and sociologists who are concernd with the problems of occupational choice, distribution, mobility, and adjustment. Several chapters are particularly noteworthy, including Chapter 4, "Sources of Occupational Information," which lists resources and gives suggestions for appraisal of accuracy. Chapter 20, "Computers and Other Methods of Getting and Using Occupational Information," discusses the use of view decks, job banks, and other computer systems in storing and retrieving occupational information. Chapter 23, "Suggestions for School and College Administrators," discusses components of a minimum program of occupational information services for an accredited school or college. Chapter 25 summarizes the results of research designed to determine the impact of occupational information upon subsequent occupational adjustment. A comprehensive bibliography is included.

22:1.0/75-1

College Graduates and Their Employers – A National Study of Career Plans and Their Outcomes. Ann Stouffer Bisconti, 35 pp. (College Placement Council, Bethlehem, Pa.).

Career development can be viewed as a 2-stage process: (1) planning and preparations, and (2) work experience. This study, based on a nationally representative sample of 1961 college freshmen, concerns itself with the career development of college freshmen during stage two, the early years of employment. It is a follow-up of an earlier study which examined the same cohort during the first, or preparation, stage – from freshman year (1961) to graduation (1965). [*Career Plans of College Graduates of 1965 and 1970*, by Helen S. Astin and Ann S. Bisconti, 28 pp. (College Placement Council Foundation, 1973)]. Occupations reported by these men and women in 1970 are compared with the plans they expressed in 1965. Also examined are the relationships between current occupation and undergraduate major. The report discusses the relative importance of professors, instructors, and faculty advisors in influencing students' career choices. Data also depict the role of the college placement officers and other persons or agencies in helping graduates find work in various occupations.

22:1.0/75-2

Labor Market Information for Youths. Seymour L. Wolfbein, 262 pp. (Temple University School of Business Administration, Philadelphia, Pa.).

This is an assessment of the role of labor market information in helping young people in what Wolfbein, Dean of Temple's School of Business Administration, in his introduction calls "the school-work connection." The authors represent both the school and the work sides of the connection. Included are discussions of the social policy issues involved in improving this connection, and implications for new institutional formats. Kinds of labor market information, methods of making it available, and the potentialities for improvement are presented. The final chapters of the book give specific program descriptions, review the newer objectives in obtaining and disseminating information, and discuss organizational implications. Practitioners will find case histories which not only describe new programs but which also evaluate and recommend courses of action.

22:1.0/73-1

Study Report: Youth and the Meaning of Work, David Gottlieb, Virginia H. Sibbison, Anne L. Heinsohn, and Martin Ford, 317 pp. (College of Human Development, Pennsylvania State University, University Park).

This is a study of the attitudes and expectations of men and women who are in the process of making a post-college transition. Respondents were 1972 graduating college seniors from four different types of institutions in Pennsylvania. Comparisons are made between this sample and the National Opinion Research Center study of American college seniors who were graduated in 1961. Two chapters are of particular interest. Chapter 5, "The World of Work and Careers," identifies the variables which appear to influence feelings about work, job expectations, and career preferences. Data provide the reader with an idea of the students' concerns about their post-college futures. Chapter 6, "The Educational Experience,"presents a survey in which students compare their expectations and the realities of the college experience. An annotated bibliography of 59 studies which focuses on youth attitudes and the meaning of work is included in the appendix.

22:1.0/73-2

Theories of Career Development, Second Edition, Samuel H. Osipow, 328 pp. (Appleton-Century-Crofts, New York).

This book is written for the practitioner concerned with the theoretical and practical aspects of career development. Theories are discussed with respect to their potential utility for career counseling and the most useful constructs of the various theoretical positions are synthesized. Elements common to most of the career development theories are identified. The following theories are discussed in detail: the developmental approach models of Ginzberg and Super, the personality models of Holland and Roe, psychoanalytic and sociological theories, and the traitfactor approach to career choice. In addition, research directed at identifying personality traits of people in specific occupations is treated at length. In the final chapters of the book, the major theories are compared and issues in the translation of theory into practice are presented with an eye to the implications for career counseling and program development.

2.0 CAREER EDUCATION

See also Topic 5: Economics, and Topic 20: Student Characteristics and Development.

22:2.0/78
Reassessing the Link Between Work and Education, New Directions for Education and Work, Lewis C. Solmon, 112 pp. (Jossey-Bass, San Francisco).

This publication, drawing on the viewpoints of leading thinkers concerned with the education-work relationship, deals with major social changes affecting the link between education and work. Rather than merely continuing the debate over the role of career education, its aim is to improve the relationship by exploring the further development of the link. Although each article addresses specific problems, the book's overriding topic is the evaluation of the total impact of education. This sourcebook would be helpful in stimulating the thinking of educational planners and others concerned with education and work, since fundamental issues are addressed and specific recommendations are made.

22:2.0/77
Help Wanted: Articulating Occupational Education at the Post-secondary Level, David S. Bushnell, ed., 49 pp. (Center for Vocational Education, Ohio State University, Columbus).

This publication is concerned with the future planning of education and work, with specific focus on the problem of making institutions more sensitive to the needs of students at the various stages of living, working, and learning. Strategies are presented for instituting effective relationships between educational institutions and commercial organizations, and for disseminating career information. Also included are examples of successful joint ventures between academic and occupational educational programs at the State and local levels. Emphasis is on the efficient use of community resources.

22:2.0/75-1
"Rally 'Round the Work-place: Continuities and Fallacies in Career Education," W. Norton Grubb and Marvin Lazerson, *Harvard Educational Review*, Vol. 45, No. 4, 23 pp.

This is a critique of the role of the career education movement in preparing students for entry-level jobs. The authors contend that career education is the same as vocational education and thus likely to be as ineffective as vocational education. Furthermore, the assumption made by career educators concerning the relationship of education, work, and the labor market are questioned. This article has been influential in several ways: It has led to widespread public scrutiny of vocational/career education and it has served as an impetus for reassessing the link between work and education.

22:2.0/75-2

The Boundless Resource: A Prospectus for an Education/Work Policy, Willard Wirtz and the National Manpower Institute, 205 pp. (New Republic Books Co., Washington, D.C.).

The central claim of this book, as stated in the preface is, ". . . that the key to bringing education and work closer together is not so much in any particular programs as in developing truly *collaborative processes* among those in charge of these functions including the 'public'." The difficulty in bridging the gap between school and work is due, in large part, to the depletion of natural resources on which a great part of the economy has been based. The alternative proposed is ". . . to rebuild our ideas and plans around the fuller development of those other resources which are called 'human' and which are in limitless supply." Parts I and II concentrate on an analysis of youth and career years and specific strategies for change.

Willard Wirtz' recommendations are expanded upon in *Education and Work Report of a Seminar*, by American Council on Education, 47 pp. (ACE, Washington, D.C., 1976). Here, representatives from various disciplines suggest a plan of action for implementing the ideas presented in this book.

22:2.0/74

Career Education, Vocational Education and Occupational Education: An Approach to Defining Differences, Kenneth Hoyt, 14 pp. (Center for Vocational and Technical Education, Ohio State University, Columbus).

The author, Commissioner of Career Education, U.S. Office of Education, asserts that the differences between career education, vocational education, and occupational education have been long ignored or, when recognized, not defined. These terms are differentiated in this monograph. Also discussed are implications for changes in vocational education policy and practice in academic settings, and the types of Federal, State, and community support systems needed for effective career education programs. The publication ends with a question and answer section.

3.0 JOB-RELATED OUTCOMES OF HIGHER EDUCATION

22:3.0/77-1

Work, Learning, and the American Future, James O'Toole, 238 pp. (Jossey-Bass, San Francisco).

This is a critical appraisal of the recent and common belief that work is demeaning and learning is a routine experience tolerated only as a means to a good job. James O'Toole attacks conventional assumptions which underlie work and learning, and offers new perspectives on the improvement of both the quality and quantity of jobs. Alternatives to current education and work policies are presented, alternatives which can be implemented within the existing political and social structures. The basis for long-range planning provided is broad and future-oriented, but not impractical or utopian.

22:3.0/77-2

College as a Training Ground for Jobs, Lewis C. Solmon, Ann S. Bisconti, and Nancy L. Ochsner, 183 pp. (Praeger Publishers, New York).

This book adds balance to the current debate on the value of a college education. It is a longitudinal study of a representative group of college-educated workers in a variety of occupations, the majority of whom are satisfied with their jobs. Aspects of college which aid in job performance are examined, and the relationship between job and college major is treated at length. Of particular interest is the examination of the use of major field in a job, and how this relates to job satisfaction and income. The final chapter analyzes the components of a "good job" from the perspective of the worker with a bachelor's degree.

22:3.0/77-3

Relating Work and Education, Dyckman W. Vermilye, 282 pp. (Jossey-Bass, San Francisco).

This is a series of discussions of the complex and controversial issues involved in the relationships between work and education. Distinguished thinkers approach the topic from a variety of perspectives, ranging from the philosophical to the historical to the pragmatic. Virtually all the articles present implications for policy and practice. Topics discussed include the following: the role of higher education in providing work skills, labor market information, and job experience; the relationship between employers and educators; the relationship between education and trade unions; the value of a liberal education in people's careers; strategies for improving the transitions between education and work throughout the life span; the role of work as a learning experience; the role of leisure and voluntary activities in career development; strategies for attaining successful careers; the reform of higher education; and the redesign of jobs.

22:3.0/76

Schooling and Achievement in American Society, William H. Sewell, Robert M. Hauser and David L. Featherman, 535 pp. (Academic Press, New York).

This book examines the complex effects of schooling on socioeconomic achievement in American society. Although the primary focus is on substantive issues, almost every chapter includes discussions of ways to modify and extend existing statistical methods. The book is valuable to sociologists, educators, psychologists, and others concerned with the problems of schooling and achievement.

22:3.0/75-1

The Manpower Connection: Education and Work, Eli Ginzberg, 258 pp. (Harvard University Press, Cambridge, Mass.).

This book is concerned with the policy implications of education and work. Part 1 emphasizes the need for a more appropriate model for analyzing resources, and points out the inadequacies of existing frameworks. The author sees the role of education as an aid to students in acquiring basic skills in order to successfully manage their lives. To this end, educators must set goals and be held accountable for them. In Part 2, Ginzberg analyzes dissatisfactions with work. Included in his examination are the changing roles of women, the position of the blue collar workers, and suggested labor reforms. Part 3 focuses on public employment and policy. Ginzberg views the present system of developing human resources as a minor instrument in promoting change in our society.

22:3.0/75-2

Education and Job Satisfaction: A Questionable Payoff, Robert P. Quinn and Martha S. Baldi de Mandilovitch, 83 pp. (Survey Research Center, University of Michigan, Ann Arbor).

This is an examination of the relationship between education and job satisfaction from a social psychological perspective. The authors review previously published studies and analyze nine national surveys of the American work force conducted between 1962 and 1973. They conclude that while education is clearly a means of social advancement, the benefits in terms of job satisfaction are dubious. Thus continued acceptance of the unsubstantiated assumption that education guarantees occupational payoffs will serve to produce a disillusioned work force. Recommendations for future research and policy changes are discussed in the conclusion.

22:3.0/73
Does College Matter?, Lewis C. Solmon and Paul J. Taubman, 415 pp. (Academic Press, New York).

In this volume, distinguished economists, educators, sociologists, and psychologists examine the potential impacts of higher education. Articles assess what is known about the effects of different types of higher education on different kinds of individuals and on society. The articles also include surveys of the social science literature, quantitative research on specific factors from varying perspectives, case studies, and reports dealing with theoretical issues. Part IV, "Public Aspects of Higher Education," is of particular relevance to government policymakers and others in policymaking positions. Here, arguments for and against greater public subsidy of higher education are examined, social policy issues are discussed and specific recommendations are made. Part V provides a useful overview of research findings on the effects of higher education, and sets forth prerequisites for further research.

22:3.0/72
Socioeconomic Background and Achievement, Otis Dudley Duncan, David L. Featherman, and Beverly Duncan, 284 pp. (Seminar Press, New York).

This monograph examines the social stratification process in the United States by extending the analysis and providing elaborations of the models of intergenerational status transmission set forth in *The American Occupational Structure* by Duncan and Blau. The focus is upon the three major sources of status in America: education, occupation, and income. The authors point out imperfections in the correlations among these status dimensions in the first half of the 20th century. Various phenomena which may account for these discrepancies are analyzed. This book is of interest to students of social stratification, to social scientists, and to a public concerned with equal opportunity in American society.

22:3.0/71

Education and Jobs: The Great Training Robbery, Ivar Berg, 200 pp. (Beacon Press, Boston).

This is a response to those who view increased education as a means of solving the nation's problems. Ivar Berg examines the relationship between education and employment by assessing new data and by critically reviewing the principal empirical studies in this area. He points out the increasing tendency for workers to be in jobs for which they are overqualified in terms of their level of education. Berg favors placing the overeducated in less crowded upper-level jobs and upgrading those at the bottom into middle-level positions. With this accomplished, the hard-to-employ could fill the less demanding jobs. From Berg's viewpoint, it is essential for policymakers to focus on such programs to increase the demand for labor.

The following volume, located in Topic 5: Economics, (5:1.2/76), is briefly annotated here because of its relevance to the topic area.

The Overeducated American, Richard B. Freeman, 218 pp. (Academic Press, New York).

In Richard B. Freeman's view, "overeducation" denotes a society in which the economic rewards of a college education are markedly lower than has historically been the case. He analyzes the lower economic return to a college education in the 1970's, compared with the 1950's and 1960's when access to a college education was expanded drastically. The author contends that the economic devaluation of the college degree is due to a current surplus of college graduates. Freeman analyzes the operation of the college job market, explains the reasons for its current weakness, and presents a forecast of future employment and income prospects. He attempts to determine whether the downturn is a temporary or long-term change. He also identifies the college-level professions that have been the most and least affected by the market decline, and examines the effect of the falling market on blacks and women. Chapter 8, "The Functioning of an Overeducated Society," summarizes the findings of the book, discusses the potential societal implications of overeducation in the job market, and presents alternative strategies for policymakers who must respond to new market realities. Freeman predicts that the market for college graduates will improve in the 1980's, but that no improvement is expected for the graduates of the 1970's. Although Freeman's analysis is economic, the material is presented in a readable, nontechnical manner.

4.0 FORECASTING

See also Topic 5: Economics.

22:4.0/77-1

Manpower Studies in Postsecondary Education, Donald M. Norris, William F. Lasher, and Floyd S. Brandt, 53 pp. (American Association for Higher Education, Washington, D.C.).

This report reviews, analyzes, and organizes the controversy surrounding projections and studies of human resource development. There is a large degree of interest and distrust concerning these studies; opinions come both from those who view the planning of human talent with apprehension and fear the misuse of such data, and those who favor studies of human resources as the primary basis for all planning. The chapter entitled "Improving the Use of Manpower Studies" is especially important because it points out both the major limitations and appropriate uses of human resource planning in higher education and gives suggestions for improvement.

22:4.0/77-2

Occupational Outlook for College Graduates, 1976-77 Edition, U.S. Department of Labor, Bureau of Labor Statistics, Bulletin 1878, 266 pp. (U.S. Government Printing Office, Washington, D.C.).

This is a guide to career opportunities in a wide range of occupations where a college degree is, or is becoming, a requirement for employment. It includes a brief summary of expected changes in economic conditions, and an analysis of the overall supply and demand for college graduates through the mid-1980's. The following information is presented for each occupation: the nature of the work, places of employment, education and training required, the employment outlook, approximate earnings, and working conditions. This volume serves as an aid to career planning for those who attend or are expecting to attend college, as well as for counselors, teachers, and parents.

22:4.0/77-3

Supply and Demand for Scientists and Engineers: A Review of Selected Studies, Betty M. Vetter, 54 pp. (Scientific Manpower Commission, Washington, D.C.).

This report examines imbalances in career opportunities in science and engineering fields for the past, present, and future. The supply for each field is assessed and compared with the demand for new graduates as well as for experienced scientists and engineers. The increasing participation of women is included in this assessment. Surveys projecting supply and demand imbalances over the next 10 years are examined, and differences in their findings are compared. The information presented is useful to young people planning for particular careers, to scientists and engineers and those who employ them, and to colleges, universities, and other training institutions.

22:4.0/76

Ph.D.'s and the Academic Labor Market, Allan M. Cartter, 260 pp. (McGraw-Hill Book Co., New York).

This is the late Allan M. Cartter's definitive discussion of the factors which need to be examined in order to adequately predict future human resource needs in higher education. In Cartter's view, the key elements in analyzing the demand for college teachers are knowledge of student-faculty ratios, of the flow of personnel between academic and nonacademic employment, and of retirements. These components of academic supply and demand are analyzed in aggregate terms. However, Cartter stresses the necessity of studying demand conditions in the various academic disciplines for a complete picture of academic employment trends. Chapter 10, "An Overview of Projected Academic Labor Market Conditions," gives specific recommendations for institutions engaged in graduate education and for funding agencies (such as State boards and legislatures) to improve the forecasting process and to deal with the policy implications of Ph.D. oversupply. Here, Cartter also defines the kind of leadership which Federal agencies should take with respect to retirement policy, graduate fellowships, and periodic data collection.

22:4.0/75-1

Ph.D. Manpower: Employment Demand and Supply, U.S. Department of Labor, Bureau of Labor Statistics, Bulletin 1860, 21 pp. (U.S. Government Printing Office, Washington, D.C.).

This report provides basic human resource data for Ph.D.'s in an effort to highlight the major factors that should be considered for policymaking and vocational guidance. The data reflect trends among persons holding a doctoral degree in a number of fields, but professional degrees such as M.D. and D.D.S. are excluded. The requirements and supply projections in this report are not forecasts of actual conditions to 1985, but serve to illustrate what could be expected if the trends and patterns of the past decade continue. The insight obtained from such an analysis can be useful in planning careers and educational programs, and in identifying the adjustments necessary to effectively cope with supply-demand imbalances.

22:4.0/75-2

Projections of Science and Engineering Doctorate Supply and Utilization, 1980 and 1985, National Science Foundation, 39 pp. (U.S. Government Printing Office, Washington, D.C.).

This publication is the National Science Foundation's third projection analysis of science and engineering doctorate supply and utilization. The previous projection analyses were carried out in 1969 and 1971; the 1974 analysis was brought about by the recognition that periodic reexamination and revision of projections was necessary. The study includes new data, new methodologies, new projections of related parameters, and overall projections extending beyond 1980 to 1985. Due to the lack of knowledge about interfield mobility, this analysis is confined to broad areas of science and engineering, rather than to individual fields. The projections are based on numerical results obtained from studies of human resource development systems for science and engineering and are developed through two alternate sets of models of supply and utilization. Sensitivity analyses are presented for the possibility of adjusting the numerical results, and the most likely assumptions are assessed and then integrated into a probable model.

22:4.0/74-1

Forecasting the Ph.D. Labor Market: Pitfalls for Policy, Richard B. Freeman and David W. Breneman, 50 pp. (Technical Report No. 2, National Board on Graduate Education, National Academy of Sciences, Washington, D.C.).

The authors critically analyze the labor market forecasting techniques for doctorates and stress the limitations of existing tactics. An alternative methodology is offered that assures improved information for decision and policymaking purposes. This report would be useful to government officials, university administrators, faculty, graduate students, and others concerned with national policies on graduate education.

22:4.0/74-2

Higher Education and the Labor Market, Margaret S. Gordon, ed., 630 pp. (McGraw-Hill Book Co., New York).

This is a collection of broad-ranging essays by a number of authors, nearly all of whom are economists. It explores relationships between higher education and the job market and concentrates on such issues as the effects of an unfavorable job market on future college enrollment, the effect of the oversupply of college graduates on the job market, and the possibility of planning long-range programs for colleges and universities that will serve both the individual students and their employers. Specific topics examined include: employer preferences for degree holders; the private and social economic benefits of education; and the economic outlook for persons in special groups, such as minorities, dropouts and students who plan to attend professional school. This book concludes with policy implications for faculty unionism, student aid, and enrollment distributions, with special regard for institutions of higher education. This book can be useful to both experts and laypersons as it provides insight into the complex relationship between the production of a highly educated workforce and a job market that must adapt to it.

22:4.0/74-3

Scientific and Technical Manpower Projections: Report of the Ad Hoc Committee on Manpower, National Science Foundation, 69 pp. (U.S. Government Printing Office, Washington, D.C.).

This report presents the findings of an Ad Hoc Subcommittee on human resource development appointed by the National Science Board. The committee's task was to carry out a critical comparative study on the present analyses of human resource planning and the assumptions which underlie them. A primary concern was the development of projections of supply and demand which would play a major role in affecting policy decisions. While all scientific and technical levels are studied, the primary focus is on the doctoral level. The report discusses various points of view on the value of projections, and makes a variety of recommendations for their improvement. The major themes addressed are the accuracy of past projections, methodologies, assumptions and limitations of projections, and recommendations for students interested in a career in the sciences.

22:4.0/73

College Graduates and Jobs: Adjusting to a New Labor Market Situation, Carnegie Commission on Higher Education, 242 pp. (McGraw-Hill Book Co., New York).

This book discusses the relationship between higher education and a new labor market that does not absorb all college and university graduates. The model of human resource planning is rejected as a comprehensive model for the development of higher education. There is evidence that the fields of study chosen by students are highly sensitive to changes in the job market, and that these changing student choices can be reliable factors in the adjustment to occupational shifts. For example, the student choices can be useful guides for allocating resources among fields by colleges and universities. The Commission recommends that high priority be given to fulfilling the aspirations of young people for more instrumental roles in society and to the goal of conquering human, urban, and environmental problems. It is also suggested that institutions of higher education place a greater emphasis on vocational counseling to provide students with the best possible information.

22:4.0/70

Human Resources and Higher Education. John K. Folger, Helen S. Astin, and Alan E. Bayer, 475 pp. (Russell Sage Foundation, New York).

This book examines human resource issues, such as the scarcity of certain professionals and unequal opportunities for competent young people, and considers the implications for higher education. Section 1 focuses on projections of the new supply of college-educated people available to enter each occupation, estimates future demand for the college-educated, and analyzes possible career adjustments. Section 2 discusses factors which determine career choice and some major aids for the adjustment of these choices. Section 3 disproves popular attitudes and assumptions with respect to special groups like women, immigrants, and those from low socioeconomic groups. The forth and final section assesses the validity of policies on human resource development. The authors conclude that a fuller comprehension of the interrelated forces determining the education and utilization of human resources must be developed at the Federal and State levels.

The following two volumes are fully annotated in Topic 5: Economics (5:1.1/75, 5:1.2/71, respectively), but they are also annotated here with an emphasis on their relevance to the forecasting of work and education:

Demand and Supply in U.S. Higher Education, Roy Radner and Leonard S. Miller, 468 pp. (McGraw-Hill Book Co., New York).

One purpose of this study is "to provide a set of related models that can contribute to the debate on policy issues." The authors review the development of the research on the demand of students for enrollment in higher education, and then set forth their own findings. Areas investigated include the following: (1) the impact of changes in college cost on student demand, and how this is related to institutional selectivity, student ability, and student family income; (2) the way in which faculty-student ratios vary with enrollment at both the graduate and undergraduate levels in institutions of differing sizes and quality; and (3) estimates and projections of annual changes in the number of educated persons by age, sex, field of training, and degree held. This book is readable and easy to understand, and major findings are summarized in the introduction to each chapter. The economic model of higher education used by the National Commission on the Financing of Postsecondary Education was based largely on this study. The study also has implications for educational planning and policymaking with respect to enrollment projections, the faculty job market, access to higher education, and other areas.

The Market for College-Trained Manpower: A Study in the Economics of Career Choice, Richard B. Freeman, 264 pp. (Harvard University Press, Cambridge, Mass.).

Mr. Freeman applies basic economic analysis to the labor market for Ph.D.'s and shows how the allocation of this human resource is explained by price or wage differentials. He examines the role of abilities, preferences, income incentives, and expectations with respect to the marginal decisions on the supply side of the market. To complete the econometric analysis of the Ph.D. job market, three models are employed: the cobweb adjustment model, which examines oscillatory behavior towards and equilibrium of supply and demand; an incomplete adjustment model in which equilibrium is approached but is not obtained; and a general equilibrium framework which determines the allocation and salaries of workers between academic and nonacademic sectors of the economy. The first two models focus on the supply lags inherent in markets in which time is required to train new specialists.

Freeman concludes that price theory explains the behavior of graduate students. This book would be most useful to those having some backgrounds in economic theory.

The study finds that foregone income is an important factor in the decision to pursue graduate education. Students' career choices are the result of market incentives. Their expectation of higher income in the future leads them to forego income now. Finally, the university system is also found to respond to market incentives by creating the necessary training programs.

5.0 BASIC DATA SOURCES

Annual

Summary Report (year): Doctorate Recipients from United States Universities, National Research Council. (National Academy of Sciences, Washington, D.C.).

Employment and Training Report of the President, U.S. Department of Labor. (U.S. Government Printing Office, Washington, D.C.).

Students Enrolled for Advanced Degrees, Fall (year), National Center for Education Statistics, (U.S. Government Printing Office, Washington, D.C.).

See also: 8:1.1/78 Earned Degrees Conferred 1975-1976, Summary Data, National Center for Education Statistics, 50 pp. (U.S. Government Printing Office, Washington, D.C.).

20:3.0/A-1 The American Freshman: National Norms for Fall 1977, Alexander W. Astin, Margo R. King, and Gerald T. Richardson, 157 pp. (Graduate School of Education, University of California, Los Angeles).

Monthly

Monthly Labor Review. (Bureau of Labor Statistics, U.S. Department of Labor).

Periodical

CPC Salary Survey: A Study of the (year) Beginning Offers. (College Placement Council, Bethlehem, Pa.).

Characteristics of Doctoral Scientists and Engineers in the United States, (year). (National Science Foundation, Washington, D.C.).

The Endicott Report (year): Trends in Employment of College and University Graduates in Business and Industry, Frank S. Endicott. (Northwestern University, Evanston, Ill.).

General

The Great American Degree Machine. An Economic Analysis of the Human Resource Output of Higher Education, Douglas L. Adkins. (Carnegie Foundation for the Advancement of Teaching, Berkeley, Calif.).

Characteristics of the National Sample of Scientists and Engineers, 1974. Part I: Demographic and Educational. (National Science Foundation, Washington, D.C.).

The 1972 Scientist and Engineer Population Redefined, Vol. 1, Demographic, Educational, and Professional Characteristics. (National Science Foundation, Washington, D.C.).

The 1972 Scientist and Engineer Population Redefined, Vol. 2, Labor Force and Employment Characteristics. (National Science Foundation, Washington, D.C.).

1974 Occupational Outlook Handbook. Bureau of Labor Statistics, Washington, D.C.).

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